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Payments for Ecosystem Services and the Neoliberalization of Costa Rican Nature

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Abstract:

"Payments for ecosystem services" (PES) represents a new form of environmental governance rooted in the logics of capitalist economics. As such, PES frequently produces new conceptions and material forms of nature that embody the principles of neoliberal ideology. This thesis explores the processes by which these policies have been deployed and taken root in Costa Rica, one of the foremost sites of financialized conservation worldwide. It provides a historical account of policy formation and the neoliberalization of Costa Rican nature. I situate this analysis in a critique of capitalist logic, explaining the particular type of neoliberalization that emerges as a consequence of capital's own internal contradictions. I place particular emphasis on ideological inconsistencies in the deployment of neoliberal ideals while highlighting the justice implications that inevitably still emerge. I do so by adopting a critical political-ecology perspective that sees questions of environmental management as fundamental questions of social and environmental justice – how are conservation mechanisms designed, by whom, for what purposes, and to whose ultimate benefit? Specifically, I consider three aspects of neoliberalization in Costa Rica's national *Pagos por Servicios Ambientales* (PSA) program: the design of a new market-like financing mechanism; the promotion of individualized contracting and participation; and the expansion of exclusionary land management practices. I show that these actions produce the conditions for uneven development, facilitate the consolidation of control over resources, and enable the accumulation of benefits among larger, wealthier landowners. I further explore conceptual understandings of neoliberalism (as ideology or process) and address the growing concern in the critical literature with ways that policy deviates from doctrine. I explain that such an emphasis on ideologically divergent practice distracts from the material and justice effects of encroaching neoliberalization, which invariably operates in partial and unfinished ways. Finally, I revisit the role of the internal contradictions of capital in producing the patterns of governance that constitute this era of neoliberal environmentalism.

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Declaration of Originality:

I declare that this dissertation has been composed by me, that it is my own work, and that it has not been submitted for any other degree or professional qualification.

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CHAPTER I

Introduction

"A revolution is taking place", proclaims the website of the recent World Forum on Natural Capital (World Forum 2013). But this is not a grassroots revolution of the people. It is a revolution "in how businesses and governments account for natural capital" (ibid.). At the highest levels of society, ecosystem functions and natural resources are being recast as "services" and "capital", in order to conform to the dominant language of business and government. The objective is arguably little different from those that have existed for decades – to manage limited resources and protect important environments – but this move is significant in that it seeks to reconcile the inherent tension between conservation and development by bringing conservation into alignment with the logics of capitalist economics.

It is increasingly mainstream among conservationists, scholars, and development specialists to view the commodification of nature as being essential for its continued survival – in effect, "selling nature to save it" (McAfee 1999, 146). In Büscher's words, we are presented with "the paradoxical idea that capitalist markets are the answer to their own ecological contradictions" (2010, 30). It is the idea that development and conservation interests can be aligned so that one necessarily supports the other. This, of course, runs counter to the previous understanding that over-development and consumption were centrally responsible for environmental decline. Bringing conservation into alignment with capitalist development, however, is appealing because it requires far less sacrifice. Instead of "reduce, reuse, recycle", the ethos may be better captured by something along the lines of "mitigate, offset,

exchange". In this new frame we do not need to reduce development if we can mitigate its environmental damage; we do not need to curb our emissions if they can be offset; and we do not need to actively protect biodiversity if its market value exceeds its instrumental value.

Assurances of "win-win" scenarios for conservation and development mean that the financialization of conservation is met with great enthusiasm. The Property and Environment Research Center (PERC), a private think tank "dedicated to improving environmental quality through property rights and markets" (PERC 2014a), for example, extolls "free market environmentalism" as a way to solve environmental problems while expanding economic growth (PERC 2014b). For PERC's "enviropreneurs" (PERC 2014c), "the principles of profitable environmental stewardship come to life" in developing alliances between business and conservation (PERC 2014d). But it is not just at the fringes that these ideas are finding traction. Organizations such as Conservation International, the IUCN, and the World Wildlife Fund are all pressing forward with the concept as a way "to provide new justification for conserving nature based on economic interests and human welfare" (WWF 2014). Development organizations as diverse as the World Bank, UNDP, USAID, and the Inter-American Development Bank are embracing the concept. Pavan Sukhdev (Chair of the TEEB Advisory Board and study lead for the TEEB Report)[1], for example, is counting on natural capital reporting to "trigger a new stage in the evolution of today's corporation", creating an entity that has its goals "aligned to society and the planet" and "generates positive externalities while it makes profits" (Sukhdev 2014).

1 TEEB stands for "The Economics of Ecosystems and Biodiversity".

Amid all this excitement, however, caution is being thrown to the wind. While there is some concern "that an economically driven focus" may lead to environmental governance that is "detrimental to long-term survival of the nonhuman parts of the ecosystems" (Redford and Adams 2009, 786), little concern has been given to the *social* implications of financializing conservation. Issues of justice and equity do not feature in valuation exercises and, thus, there is a danger that the economic valuation of nature will begin to encourage the "wrong type" of conservation – i.e. that which makes good economic sense, but not necessarily good social or ecological sense. Recasting conservation in economic terms alters how conservation decisions are made, by whom, for what reasons, and to whose ultimate benefit. Aligning conservation outcomes with business interests leaves little space for pursuing human or even environmental aims. As management decisions are reduced to matters of "rational" economic calculus, issues of power, justice, and equity are pushed to the side – this is the primary concern that I take up in this thesis.

I provide a detailed history of the formation of policies to make "payments for ecosystem services" (PES) in Costa Rica, I explore the neoliberalization of those efforts, and I connect my findings to a broader scale understanding of the development, contradictions, and crises of capitalism. Rather than explore techniques for implementing these new regimes, I concern myself with understanding the historical processes by which they have become embedded in current policy. Specifically, I focus on Costa Rica's national payments scheme, which is one of the most significant and influential programs to develop PES worldwide. It is a program that has served as a model for many similar efforts (including the global-scale

REDD+ initiative). And, as such, this thesis offers insight not only to the development of experimental (financialized) approaches to conservation, but also to their diffusion around the world. Within my specific context, I explore the ways in which these new forms of environmental governance have altered the rationale for supporting forest management and re-defined the practices of ecosystem conservation. I do so by way of a combined approach of policy document analysis, key-informant interviews, and observation. I then link my insights to broader conceptual themes concerning the neoliberalization of nature and identify the crucial junctures at which neoliberal policies push through ostensibly non-neoliberal practices. My objective is to go beyond simply identifying examples of neoliberalization, to instead reveal something about the deceptively ambiguous way in which it operates, the way it defies classification and, as a result, is able to evade scrutiny.

In this opening chapter, I lay the groundwork for this thesis by introducing the fundamental aims and motivations of my research. I then briefly clarify my politics and specify my intellectual framework – both of which will be further developed in a comprehensive review of the literature (Chapter 2). I then provide greater resolution to the concept of "ecosystem services" and the conservation schemes that make payments for their provision. Following this, I explain the significance of my research in terms of understanding the growing alliances between conservation and capitalist development and, more specifically, the rise in neoliberal forms of environmental governance. I also identify how the internal contradictions of capital are responsible for the particular form of neoliberalization that emerges. I then explain why Costa Rica is the ideal context for exploring these issues. Finally, I

provide structure for the thesis with an overview of the chapters that will follow.

Aims, Motivation, and Perspective

Conservation is inextricably a question of justice. It concerns much more than the use or preservation of resources; it concerns decisions over access and distribution, relative shares of benefits, and issues of equity and accumulation. Decisions about conservation, however, are frequently treated as little more than practical questions of resource management, especially when they are merged with economic development and framed as win-win or triple-win propositions (McAfee and Shapiro 2010). The fundamental aim of my research, on the other hand, is to introduce a critical concern for justice and equity in place of the economic rationalism that dominates current discourse. I, of course, am motivated by my own sense of justice and a desire to see broader control over resources, wider distribution of wealth, and more responsible, socially-motivated forms of resource conservation. I come at the issue from the perspective that the economic valuation of nature does more to promote uneven accumulation of wealth and extend the reach of global capitalism than it does to expand sound ecological management (Brockington and Duffy, 2010; Corson, 2010).

I take an unabashedly political stance in my research. Influenced by the tradition in the social sciences that is skeptical of claims of "objectivity" (Haraway 1998), I take the position that politics is unavoidable. In accordance with a feminist epistemology, I believe that it is impossible to remove "bias", sidestep partiality, or look beyond particular lenses. Attempts to separate research from the positioning of the researcher or remove it from the political context in which it sits does not make research apolitical, but rather "anti-political" (Ferguson 1990) – that is, the denial of

politics does not depoliticize interventions, it simply conceals positionings within technical, scientific, or bureaucratic discourses while advancing particular regimes of power. Rather than profess neutrality (or pretend that it is possible), I make my politics explicit: I stand in defense of social and environmental justice, I oppose the concentration of wealth and power, and (like other political ecologists working in geography) I am convinced that capitalism is antithetical to these objectives.

Given this position, I approach my research on the economics of conservation from a different angle to much of the scholarly work directed at the subject. Rather than assume the economic valuation of nature to be a simple tool for resource conservation, I understand it as a shift in governance that fundamentally alters the reasons conservation is carried out. Guided by a critical framework, I see environmental management as much more than technical and bureaucratic administration of resources. Beyond simply attempting to understand *how* the economy might work for conservation, I seek to understand *for whom* it works when aligned to such objectives. While devotees of economic approaches to conservation believe that capitalism has the potential to solve environmental problems, I draw on Harvey (2014) to explain that it cannot possibly have this result – i.e. there are internal contradictions to capital that ensure it is inherently unstable, inequitable, and consumptive of the environments it produces.

The primary objective of this research is to understand the alliances that are being forged between conservation and development interests, specifically with regard to the social and ecological implications of new financialized approaches to conservation. There are, of course, practical motivations to understanding this trend

(as it concerns actual resource management policy) but within this thesis I wish to contribute, in a much broader sense, to our understandings of the conditions of contemporary capitalism and the patterns of governance that constitute this era of neoliberal environmentalism.

The Emergence of Payments for Ecosystem Services

Conceptions of Nature

The recent economically-oriented trend in conservation is best understood in the context of historical conceptions of nature – that is, the "external", "intrinsic", and "universal" conceptions – which posed nature as characteristically asocial and removed from society, as having inherent unchanging qualities, and as all-encompassing or predictably mechanistic (Castree 2001, 6-8). As critical scholars (e.g. Castree and Braun 1998; Katz 1998; Demeritt 1998; Castree 2001; Demeritt 2001; Gregory 2001; Proctor 2001) have demonstrated, these "traditional" views of nature were mobilized to sustain hegemonic control over resources and advance a particular social order. The oppositional concept of "social-nature", by contrast, re-framed nature as the product of social relations (Castree and Braun 2001). This framework sought to undermine claims that nature was an apolitical and neutral entity by contextualizing our understandings and relations to it within social processes. The result was an interpretation of nature as *constructed* (both materially and discursively) through complex social interactions, negotiations, and power struggles (Braun and Castree 1998). The objective was clear: reveal uneven power relations, destabilize the foundation on which they are built, and counter injustice.

While the traditional views of nature remain dominant, narratives have shifted in

some domains. Within conservation, the historical appeal of external nature has declined with introduction of the idea that successful conservation cannot take place without consideration for the well-being of local communities. The concept of "sustainable development", which incorporates social and economic development as essential components of nature conservation, is the product of this line of thinking. Society's reliance on natural resources was explicitly acknowledged and further integrated into conservation with the Millennium Ecosystem Assessment (MEA 2003), the defining framework for contemporary conservation. The Assessment's strong language marks a definitive shift in the relationship between society and nature within conservation, proclaiming that "[e]veryone in the world depends completely on Earth's ecosystems and the services they provide" (2005, 1) and "posit[ing] that people are integral parts of ecosystems" (ibid., v). To an uncritical eye, this would seem to mark the demise of the elite notion of external nature and signal the onset of a new era in social justice. However, as I will demonstrate in the chapters that follow, entrenched interests have responded to this alternative framing and co-opted the narrative to extend the reach of global capitalism. They have done so by appropriating the concept of "ecosystem services" and placing it at the foundation of expanded capitalist development.

Ecosystem Services

Ecosystem services are conceived as the benefits derived by society from functioning ecological systems. The idea is that "natural" ecosystems provide many of the conditions that sustain human life. This goes beyond the obvious material resources that can be extracted from nature to include the benefits of actual ecosystem functions. They include, for example, hydrological services provided by watersheds,

carbon sequestration services provided by forest regrowth, biodiversity services provided by forest conservation, soil retention services provided by vegetative cover, and pest control services provided by predation (Daily 1997).

These "services" are seen as absolutely critical to human well-being; "they are the life support system of the planet" (Kubiszewski and Costanza 2012). The ecological processes of a forested watershed, for example, ensure that clean drinking water is provided to downstream populations centers. While technological alternatives such as an industrial water treatment facility may be able to stand in for degraded environments, "natural" systems, it is argued (Daily 1997), almost always perform better. Not only does the forest purify water, it serves to regulate flow and prevent flooding, it slows erosion of the best agricultural soils, and it reduces sedimentation that can harm fisheries or disrupt hydro-power generation. Additionally, standing forests provide habitat for important species and store carbon that would otherwise contribute to climate change. Forests clearly provide humanity with benefits essential not just to human survival, but also prosperity. Their services must, therefore, be at least as important – at least as "valuable" – as those provided by technological alternatives.

Appraisal of ecosystem service "value" began as an effort to qualitatively assess an ecosystem's benefit to society, but it has evolved into something far more literal. For at least the first two decades of the concept's existence, it was only to a limited degree that ecological concerns were framed in economic terms, and it was primarily done only "to stress societal dependence on natural ecosystems" (Gómez-Baggethun et al. 2010, 1213). The concept first appeared in the field of ecology in the 1970s,

but remained largely the subject of scientifically oriented analyses aimed at measuring ecological processes important to society (Mooney and Ehrlich 1997). With the exception of a few early experimental programs (e.g. that of Costa Rica), the concept was almost entirely unknown outside of the academy. It was not until the MEA that ecosystem services entered a new era of importance to conservation, moving from "academic backwater to the mainstream" (Redford and Adams 2009, 785).

Initially the concept was intended to emphasize that ecosystems "serve us" and that there were social benefits to their conservation (Peterson et al. 2010). As time progressed, however, they were increasingly framed in terms of their actual *economic* value, since governments "in most western nations … require that environmental decisions be made within the framework of cost-benefit analysis" (ibid., 115). In this regard, the initial framing of ecosystem services in economic terms can be seen as an attempt by conservationists to "communicate the value of biodiversity … using a language that reflects dominant political and economic views" (Gómez-Baggethun et al. 2010, 1215). Early attempts at valuation, therefore, may be interpreted as a strategic maneuver to gain leverage "where traditional narratives for conservation … failed to influence economic decision making" (ibid.).

The use of "ecosystem services" as a communication tool, however, quickly gave way to more applied endeavors as economically minded (and politically motivated) technocrats seized the opportunity to promote policies and deploy structures that would remake nature's services as marketable commodities. From the mid-1990s, calculations of the monetary value of the ecosystem services became the norm.

Analyses used, for instance, the dollar equivalence of services provided by technical alternatives, measures of increases to productivity resulting from improved ecosystem management, and estimations of buyers' "willingness-to-pay" (Goulder and Kennedy 1997; Costanza and Folke 1997) to calculate the monetary value of ecosystems. The most prominent of these was the assessment by Costanza et al. (1997) that valued the entirety of the world's ecosystem services at $33 trillion per year, nearly twice the world's total annual economic activity at the time.

Once the ideology of the monetary quantification of ecosystem value was firmly in place, the focus shifted to deployment of structures to facilitate exchange. The ecosystem service concept set the stage for this *in situ* commodification, and environmental managers simply had to build the infrastructure to launch a totally new way of managing nature. This expansion of "market logics in[to] the field of nature conservation", however, remains "a controversial outcome of the economic framing of environmental concerns" (Gómez-Baggethun et al. 2010, 1215), primarily because of its distributional implications. Nevertheless, it has become the dominant framework, backed by those who believe that "a major factor driving [ecosystem] conversion" is the fact that their benefits "are not traded in formal markets and [thus] do not send price signals of changes in their supply or condition" (Daily 1997, 2).

Payments for Ecosystem Services

At the forefront of the strategies being developed to encourage conservation and restoration of ecosystem services is PES, which is theorized as a way of internalizing positive environmental externalities in economic decision making. In other words, it is a way of capturing the economic benefits of functioning ecological systems, so that

owners have greater incentive to protect them. As Pesche et al. explain,

> two relatively independent processes … led to the emergence of the ES concept on one hand and the PES concept on the other. Whereas the concept of ES is closely linked to a desire to attract official attention to the threats to ecosystems posed by human pressure, the concept of PES seems rather to have stemmed from a concern to ensure funding for conservation in tropical countries over the long term (2012, 68-69).

The concept is built on the idea that ecosystems are currently undervalued by society because their services are free. PES schemes are designed to attach an economic value to ecosystem services and, thus, make conservation the economically rational option. On the surface, this is not a particularly new concept. Many previous systems have offered monetary incentives for conservation. However, PES differs (theoretically) from direct incentives in the way that it is financed.[2] Whereas previous systems may have sought to encourage conservation through subsidies, PES seeks to connect beneficiaries of services with providers of services through direct financial transactions – an important distinction that will be elaborated in the course of this thesis.

Schemes for making these payments for ecosystem services operate in many distinct ways. The basic idea is to transfer the equivalent cost that would be incurred by service users (in the event of environmental degradation) to service providers in exchange for conservation (which is oftentimes simply presumed to result in the provision of ecosystem services, Pagiola 2008). For example, conversion of forest to pasture would result in reduced service provision, and service users would incur costs in replacing those services with technological alternatives (e.g. water treatment

2 They differ "theoretically" because the way in which these programs are actually implemented often times does not correspond very well to the idealized conception (Fletcher and Breitling 2012; Matulis 2013), as I explore in Chapter 4.

facilities, flood control infrastructure, pest control measures, climate regulation technology). In applying the concept of PES, however, service users preempt this land-use conversion and subsequent service degradation by offering payment directly to service providers. If the amount of the payment exceeds the opportunity cost of the foregone land conversion (and actors are assumed to be motivated primarily by economics), conservation will be achieved. Since the payment amount must be less than the technological alternative (or else service users would decline participation), the program is usually characterized as a win-win situation for all involved (Engel et al. 2008).

Since its inception, however, PES has taken a turn towards more explicitly market-oriented designs. The "dominant Coasian approach" (Muradian et al. 2010, 1207) envisions more heavily abstracted ecosystem service commodities that can be circulated in markets to not only make conservation economically viable but also to create a system in which the value of those commodities becomes unbound from the actual use of ecosystem services. As Robertson elaborates, this commodification "is not merely an expansion of capital toward the acquisition or industrialisation of new resources, but the making of a new social world" (2012, 386). The problem with this, of course, is that questions of social justice or equity enter nowhere into the Coasian equation. Coase is concerned only with the "optimal" use of resources, not the distributional implications that are associated with it (Muradian et al. 2010; Tacconi 2012).

Value, Capital, and Neoliberalization

Assessing the distributional, justice, and equity implications of financialized

conservation requires understanding ecosystem services in the context of capital. For this, the distinction between the use and exchange value of nature is paramount. Nature, of course, has important use values, as it provides the resources that fuel the economy. The raw materials of nature can be extracted, manipulated, and produced into salable goods. This means that the use value of *material* nature has long been recognized by society. More recently, however, as ecosystem science has shown the importance of ecological functions, we have begun to recognize the value of the things that nature *does*. This too is an expression of the use value of nature, but historically it has remained outside economic calculations. The argument is that ecosystems are lost to development because the use value of their processes is not fully integrated to our decision-making calculus. As I explained above, this has caused a proliferation of (monetary) valuation techniques in the hope that nature's full value can be made explicit. With the advent of PES (particularly Coasian PES), however, it is the exchange value of nature that is emerging as an expression of ecosystem importance. Exchange value structures are being deployed to stand in for the use value of ecosystem functions.

While the effort to value ecosystem functions in economic terms may have emerged from the realization of environmental crisis (i.e. degradation spurred the conservationist response), the effort to attach exchange values emerged from the realization of economic crisis. Capitalist economies must continually grow to service the debt on which they are based and, in a resource consumptive economy, this means environmental degradation, exhaustion of resources, and inherent unsustainability – it is James O'Connor's "second contradiction" of capital (1988), which says that capital produces the environmental conditions of its own decline. As

resources are consumed and (socially-produced) ecological limits are approached, growth is threatened and the economy falters. In the face of these simultaneous ecological and economic crises, society has a choice: abandon the system that requires ever-increasing metabolism of nature, or invent new ways of expanding capital that do not degrade ecology. This choice is what we have seen recently and, with the advent of "ecosystem services", there has been a clear decision in favor of the latter: expand the logic of capital into new realms by aligning conservation with economic development.

Fundamentally, PES is about increasing the value of nature so that conservation becomes the economically rational *and profitable* thing to do. In theory, this can be achieved by bringing well-defined "ecosystem services" into a market (Wunder 2005). If the "services" that ecosystems provide are exchanged in markets, they can come to hold value (an exchange value) far greater than that of nature's extracted material resources – or, at least, this is the logic that has generated so much excitement for the idea. The fear among critics, of course, is that conservation under market rule will come to be governed by all the same logics that govern capital: circulation, profit, accumulation, debt, "efficiency". Once market infrastructure is in place, and ecosystem services are being valued according to market rates, nature comes to be seen in a very singular way; it becomes fully exposed to the brutal logic of market rationality. Exacerbating this hazard is the danger that ecosystems may not actually be able to *hold* an exchange value. If ecosystem services are "weakly comparable" (Martinez-Alier et al. 1998) or "uncooperative" (Bakker 2004), nature may actually be *de*valued in markets,[3] presenting an internal contradiction of PES

3 It is not possible to compare, for example, the value of a tree plantation (which provides climate

(i.e. the aim is to procure the use value of ecosystem functions through an exchange value structure, but the exchange value falls below competing uses, ensuring the loss of ecosystems).[4]

Nevertheless, proponents of financialized conservation have proceeded with great enthusiasm; pilot programs, frameworks, and now full-scale systems abound (Wunder et al. 2008). In spite of an inclination towards market strategies (Engel et al. 2008), however, there has been much difficulty in establishing these regimes and achieving monetary valuation. Very few, if any, "true" markets for ecosystem services actually exist. As Milne and Adams (2012) explain, most attempts to implement PES have resulted in programs that simply "masquerade" as markets. Governments, development organizations, and NGOs have had to step in and create programs that approximate market transactions; they are propping up markets so that ecosystems can hold some level of proxy value in exchange. This creation of pseudo-markets for ecosystem services has been explained as an effort to kickstart exchange that would give way to "real" markets (Fletcher and Breitling 2012) and as a socially-acceptable or politically-viable compromise to complete marketization (Rodriguez, interview, 2011). But these explanations do not consider the contradiction of capital that is expressed in PES nor do they clarify why free-standing markets may necessarily fail to develop.

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regulatory services) to the value of biodiversity conservation (a genetic diversity provisioning service) because they serve two entirely different functions. One cannot be worth $X while the other is worth $Y because "dollars" assumes a common unit of measure can be applied. In reality, they are incommensurable. When a market places a value on carbon sequestration through plantation forestry, it necessarily devalues biodiversity (or vice versa) because the two are incompatible and mutually exclusive.

4 Devotees of market valuation, of course, contend that ecosystems are *already* undervalued, thus explaining why they are already being lost. However, with direct monetary valuation and exchange in markets, it becomes impossible to step outside economics and make decisions according to other (e.g. social) priorities.

Most considerations of PES do not appreciate how the internal logics of capital impede the exchange of "ecosystem services"; essentially, *why* have ecosystem services not been able to hold an exchange value? For this, it is possible to turn to Harvey (2014), who provides the conceptual basis for understanding the inherent contradictions to capital that produce its perennial crises. As I've suggested already, there may be a fundamental contradiction to PES in that it relies upon exchange values to ensure provision of use values, while its commodities are unsuitable for exchange. This relates to the disconnect between the ecosystem being valued through PES and the actual bits of nature that are exchanged. If, for example, it is hydrological services (e.g. filtration and flow control) that we are after, it is not the ecosystem that gets valued in exchange, but rather the water itself. Municipal water users may be charged an extra "ecosystem service" fee to pay for conservation that enhances natural hydrological systems, but the connection is indirect and mediated by the consumption of water. Water is the commodity, not the watershed. There is no actual exchange of ecosystem services and, thus, an intermediary is required to make the link between consumer and producer explicit. So what we end up with is "market-like" approximations that governments (and other institutions) must prop up.[5]

The "market" that results from this state-led form of capitalist development, however, is every bit as insidious as the mythical one that arises from pure consumer/producer relations – it still circulates commodities, it still orients resource management

5 As I will discuss in the following chapter, this is the ever-present "re-regulation" phase of neoliberalization.

towards profit maximization, it still leads to concentrated wealth and benefits. Relative to "true" markets (where exchange value is entirely unbound from use value), however, accumulation is limited – a market-like mechanism cannot offer the same speculative opportunities that are presented in capitalist circulation directly. Since accumulation cannot be maximized under these conditions, opportunities must be sought elsewhere. Capital, thus, responds to the exchange value contradiction in PES by shifting accumulation to other aspects of production. In effect, the problems of capital are never solved, they are simply "moved around" (Harvey 2014), eventually requiring further interventions by the state in order to maintain the conditions in which capitalism can function. It is this process that defines our era of neoliberal governance.[6]

An understanding of the fundamental logics of capital that are responsible for market failure can do a great deal to explain the type of governance that emerges as neoliberalization proceeds. We know that the ideological "purity" of markets matters rather little in terms of the social and material effects that they have; neoliberalism is never deployed onto a blank slate, existing institutional and political context constrains what is possible, and re-regulation is required to stabilize markets (Castree 2008a), and yet these markets still result in the uneven accumulation of wealth and unbalanced power relationships.[7] We know already that markets do not just exist on their own. What I want to do here is provide an understanding of neoliberalization in the context of capitalist crisis; how does the neoliberalization process respond to the contradictions of capital in order to continue facilitating capitalist development?

6 A detailed discussion of neoliberalism (and neoliberal*ization*) will come in Chapter 2.

7 Here, I am making an important distinction between neoliberal*ism* (a coherent ideology) and neoliberal*ization* (an incomplete and ever-adapting process). It is a distinction that is central to the way I conceptualize these ideas and, thus, will be discussed in considerable detail in Chapter 2.

The study that follows in this thesis is a look at how neoliberalization has responded to the contradictions of capital on the ground. It is a history of the development of PES and the mechanisms that support it. I provide a detailed account of nature's neoliberalization in Costa Rica, one of the foremost sites of financialized conservation worldwide. Empirically, I show how nature has been neoliberalized across three aspects of Costa Rica's national *Pagos por Servicios Ambientales* (PSA) program. The study contributes to an understanding of the development of PES in globally significant context but, beyond this, it is an exploration of neoliberalization; I provide an understanding of the nature of neoliberalism itself and the way it operates in partial and perpetually unfinished ways, and I contribute to our understanding of the conditions of contemporary capitalism at its newest frontiers. I explore what occurred when the decision to foster nature's exchange value was taken and how the state responded when those exchange values failed to take hold. In other words, this thesis asks how neoliberalization unfolded when capital came up against one of its central contradictions.

Costa Rica's PSA

Costa Rica's *Pagos por Servicios Ambientales* (PSA), literally "Payments for Environmental Services", is a national-scale program that implements the PES concept. Ecosystem services became the foundation of Costa Rican forest policy in 1996, a full year before Daily's (1997) seminal framework and nearly a decade before the concept settled into the mainstream global policy arena with the Millennium Ecosystem Assessment (2005). As one of the earliest adopters of the concept, Costa Rica has been a proving ground for this experimental conservation mechanism.

Much like Chile and New York City were early experiments for neoliberalism (Harvey 2005), Costa Rica has served as a laboratory for neoliberal conservation. The PSA has been closely observed and is often looked to as a model for implementation elsewhere (e.g. Bennett and Henninger 2008; Brockett and Gottfried 2002; Brown and Bird 2011), which is the primary reason I chose it as the focal point of this thesis. As one of the most advanced schemes carrying out PES (and remaining at the cutting-edge of policy innovation), Costa Rica's PSA is the ideal context for understanding capitalist approaches to conservation and processes of neoliberalization.

Figure 1.1: Land enrolled in the PSA

From the very beginning, Costa Rica viewed the PSA as a strategy for "selling nature

to save it" (to borrow the words of McAfee 1999, 146). As former Environment Minister René Castro reflected in an institutional retrospective,

> The sale and exploitation of our forests is one of the best tools for preserving them … such a statement would doubtless be received with shock and revulsion by most people. In these times, however, it is possible to 'sell and exploit' our forests in such a way that, paradoxically, their conservation is actually enhanced, and their development is encouraged (FONAFIFO 2005, 13).

The policy was viewed as a "paradigm shift" (FONAFIFO 2005, 19) from incentive-based conservation to service-provision-based conservation, and it has since been celebrated as a watershed experiment in natural resource governance. As I will explain in greater detail in Chapter 4, however, Costa Rica struggled to get the PSA to conform to this idealized conception (Fletcher and Breitling 2012).

My analysis is centered on the historical policy process that has unfolded in response to the program's failure to achieve the intended market-based design. Specifically, I focus on Costa Rica's engagement with the World Bank under two projects – "Ecomarkets" and "Mainstreaming Market-Based Instruments for Environmental Management" – designed to bring the PSA into closer alignment with its underlying ideals. This thesis is an interrogation of these nascent changes and shifts toward neoliberal governance, and it is an attempt to understand the social and environmental implications of them. What are the specific neoliberal policies that have been introduced through World Bank influence? How have they been enacted? And how do they relate to a broader scale understanding of capital?

Thesis Overview

This thesis consists of eight chapters organized into two parts. Part One includes this

introduction (Chapter 1), a comprehensive review of the literature (Chapter 2), a methodological and analytical framework for the research (Chapter 3), and a conservation history of Costa Rica (Chapter 4). Part Two makes up the bulk of my empirical research, analyzing three aspects of the PSA – program financing (Chapter 5), program contracting (Chapter 6), and property ownership (Chapter 7) – and a concluding chapter (Chapter 8) where I synthesize the empirical data and revisit the conceptual aspects of the study.

In Chapter 2, I engage with the literature relating to the political ecology of ecosystem services. This is divided into two parts: critically-oriented and implementation-oriented literature. The former, with which I position myself, takes as its starting point a skeptical view of financialized approaches to conservation, while the latter assumes that the economic valuation of nature is favorable, inevitable, or both. Within the critically-oriented literature, I explore capitalist approaches to conservation, Marxist and post-structuralist critiques of environmental governance, neoliberalism, and (more specifically) the process-based concept of neoliberal*ization*. The objective of reviewing this material is to articulate the analytical framework for challenging the mainstream economics of ecosystem conservation. Following this, I present some of the key implementation-oriented literature and critique its main assumptions. I do so by exploring the vision and underlying logics of PES, appraising the dominant Coasian approach to implementation, and reviewing some of the "best practice" debates. Finally, I pivot to questions concerning social and environmental justice and suggest that placing emphasis on these concerns can guide critical research seeking to challenge dominant conceptions of financialized conservation.

Following my review of the literature, I describe the methodological and analytical frames employed. I begin Chapter 3 with a brief exposition of my theoretical stance on information gathering, and then proceed with sections on my two primary data sources: textual materials and interviews. With each of these, I provide a synopsis of the methods employed for data collection and the techniques used in analysis. Textual sources include policy and project documents, agency reports, non-governmental assessments, legal documents, and interest group publications. They were collected using reference tracing from documents that directly relate to the activities of interest, and they were processed using techniques from critical discourse analysis. The interviewees for this project were identified through a process of institution mapping to identify key agencies and their central actors. This was aided by familiarity with the textual sources issued from these agencies. I also comment on supplementary data sources (e.g. participant observation) and ethical considerations.

Chapter 4 delves into important historical context for the conservation policies that currently exist in Costa Rica. The chapter covers the period of history preceding Costa Rica's ecological fame (from the colonial period to late 1970s), the emergent conservation movement (1970s and 1980s), the period of forestry intervention and conservation incentives (1980s and 1990s), and the most recent re-orientation of policy towards neoliberal forms of governance (from the mid-1990s). In preparation for my own empirical contribution, I then provide an overview of the neoliberal vision that was laid down for Costa Rica's PSA when it was first proposed, as well as an accounting of the actual policies that existed in early practice. This sets the stage

for Part Two of the thesis, in which I investigate the ongoing neoliberalization of the program.

Part Two begins with a brief synopsis that reiterates the central purpose of the empirical work. It is, first of all, an effort to bring clarity to the way in which neoliberalism operates in actually-existing context, to demonstrate how neoliberal ideologies are deployed and become grounded in one of the foremost sites of financialized conservation worldwide, and to understand the role of capital in shaping this neoliberalization process. I explain, as well, that its second (though not secondary) purpose is to go beyond exemplification of neoliberalism-in-action to converse with the broader literature and place my conceptual tools in a new light.

Chapter 5 handles the neoliberalization of PSA financing. I explain that early implementation of the PSA failed to achieve its neoliberal vision because it was financed through a tax on fossil fuels. The tax, I explain, constitutes an important role for government in facilitating ecosystem service transactions and in prioritizing particular development objectives through redistributive action. I show that when a second revenue stream was developed, a deliberate effort was made (at the encouragement of World Bank partners) to bring PSA financing into alignment with the concept of user fees – that is, direct financial transactions between users and providers of ecosystem services. Finally, I provide evidence to suggest that this new financing mechanism will eventually (when it is fully implemented) result in geographically uneven patterns of conservation-development.

Chapter 6 deals with the neoliberalization of PSA contracting. Specifically, it

concerns two scalar shifts in the mediation between competition and cooperation: the individualization of forestry work, and the individualization of landowner participation. I show that, in re-casting professional foresters as independent private contractors, administrators have succeeded in introducing competition to PSA contracting. While the presumption is that this will lead to greater efficiency, I show that the result has been the uneven distribution of benefits as efficiency gains are delivered primarily to the largest and wealthiest landowners. Then, directing focus onto the participants themselves, I explore the second scalar shift away from cooperative participation. The result, I show, is that the smallest (and often poorest) landowners lose important support, further compounding the problem of large landowner advantage.

Chapter 7 explores the neoliberalization of property ownership. In this chapter, I examine the effect of Costa Rica's PSA on property relations, demonstrating how constraints placed on program participants are resulting in the expansion of exclusionary management practices. Stipulations written into PSA legislation oblige participants to monitor their forests and enforce practices outlined in their agreements. Significant monetary incentives are provided to landowners who restrict access to the broader community, at the same time that they are equipped with the ability to call upon enforcement authorities. This, I explain, contravenes customary usufruct access that has historically existed throughout rural Costa Rica. The ultimate result of this consolidated control over land is the accumulation of benefits by an ever-narrower segment of the population.

Finally, in Chapter 8, I conclude with a synthesis of my empirical findings and revisit

the conceptual questions explored above and in the literature review. I bring my three points of engagement with the neoliberalization of Costa Rica's PSA together to explain how they collectively constitute a manifestation of neoliberal ideology. I show that while they are by no means a perfect or pure representation of neoliberal ideals – or even of the neoliberal vision articulated for this program – they are a clear manifestation of an actively unfolding process of neoliberalization. I then revisit the analytical framework laid out in Chapter 2, and engage with intellectual concerns about connecting localized expressions of neoliberalization to the broader "neoliberal project" that is acting on nature. Finally, I return to the narrative of capital and its internal contradictions. I explain how the exchange value contradiction identified above prevented the development of "true" markets for ecosystem services and produced the particular characteristics of the neoliberalization that has unfolded. And I show how capital has responded by "moving the problem around" to other aspects of the PSA (namely, to the labor market and property regimes).

CHAPTER II

Literature Review

The literature concerning "payments for ecosystem services" can be divided into several categories. First, there is a distinct divide between implementation-oriented and critically-oriented research. Implementation-oriented research takes, as its starting point, the assumption that such forms of natural resource management are favorable, inevitable, or both. The path forward, then, becomes a matter of assessing, evaluating, debating, and prescribing best practices. Critically-oriented research, on the other hand, is more cautious about accepting this form of resource management and skeptical of its grand promises. The focus, therefore, of this segment of the literature is directed at questioning the very concept of managing resources in the way that it does.

Implementation-oriented research can be further divided in several ways, one of which is by the ideological foundations on which the policy prescriptions are made. These can be thought of in (perhaps overly) general terms as the market approach and the more-than-market approach. Proponents of marketizing ecosystem services assume that the formation of capitalist markets is the most efficient and effective way of ensuring conservation (e.g. Engel et al. 2008; Wunder et al. 2008; Pagiola 2008). This is the dominant framing, and it is based on the Coase theorem, which says that given low transaction costs and enforceable property rights, bargaining will lead to efficient outcomes (Muradian et al. 2010; Tacconi 2012). The more-than-market approach, by contrast, is far less dogmatic. It is made up of scholars that are unconvinced by the promises of market capitalism (Muradian et al. 2010; Farley and

Costanza 2010), that are pragmatic about what can be achieved given political constraints (Bohlen et al. 2009), or that are plainly opposed to capitalist designs (McCauley 2006).[8] These alternative perspectives on PES, however, are still concerned with evaluating and prescribing particular policy actions, and (excepting McCauley 2006) largely still "endorse a neoliberal environmentality in their advocacy of an incentive-centered approach" (Fletcher and Breitling 2012, 409).

Critically-oriented research can also be divided in several ways. One useful way is by the epistemological foundations on which arguments are constructed. Broadly speaking, these are historical materialist and post-structuralist frameworks. A third, hybrid category of the literature could be defined as drawing on both materialism and post-structuralism in a complementary fashion in order to employ the strengths (and avoid the weaknesses) of each. Materialist critiques understand ecosystem services in the context of their wider relationship to economic systems and modes of development (e.g. Roberston 2012). They often draw on broader conceptual frameworks of political ecology, framing the phenomenon in terms of nature as an accumulation strategy (Katz 1998; Smith 2007), accumulation by dispossession (Harvey 2003), and the remaking of nature through the capitalist mode of production (Smith 1984). Post-structuralist critiques (e.g. Fletcher 2010; Fletcher and Breitling 2012), on the other hand, situate this new way of managing resources in a framework that "integrates politics more centrally, draws upon aspects of discourse theory which demand that the politics of meaning and the construction of knowledge be taken seriously, and engages with the wide-ranging critique of development and

8 Certainly, the further division of my "more-than-market" category would be possible, given the diverse perspectives I've clumped into it, but as the prevailing tension within the implementation-oriented literature is between markets and *something else*, I find it sufficient to categorize them as I have.

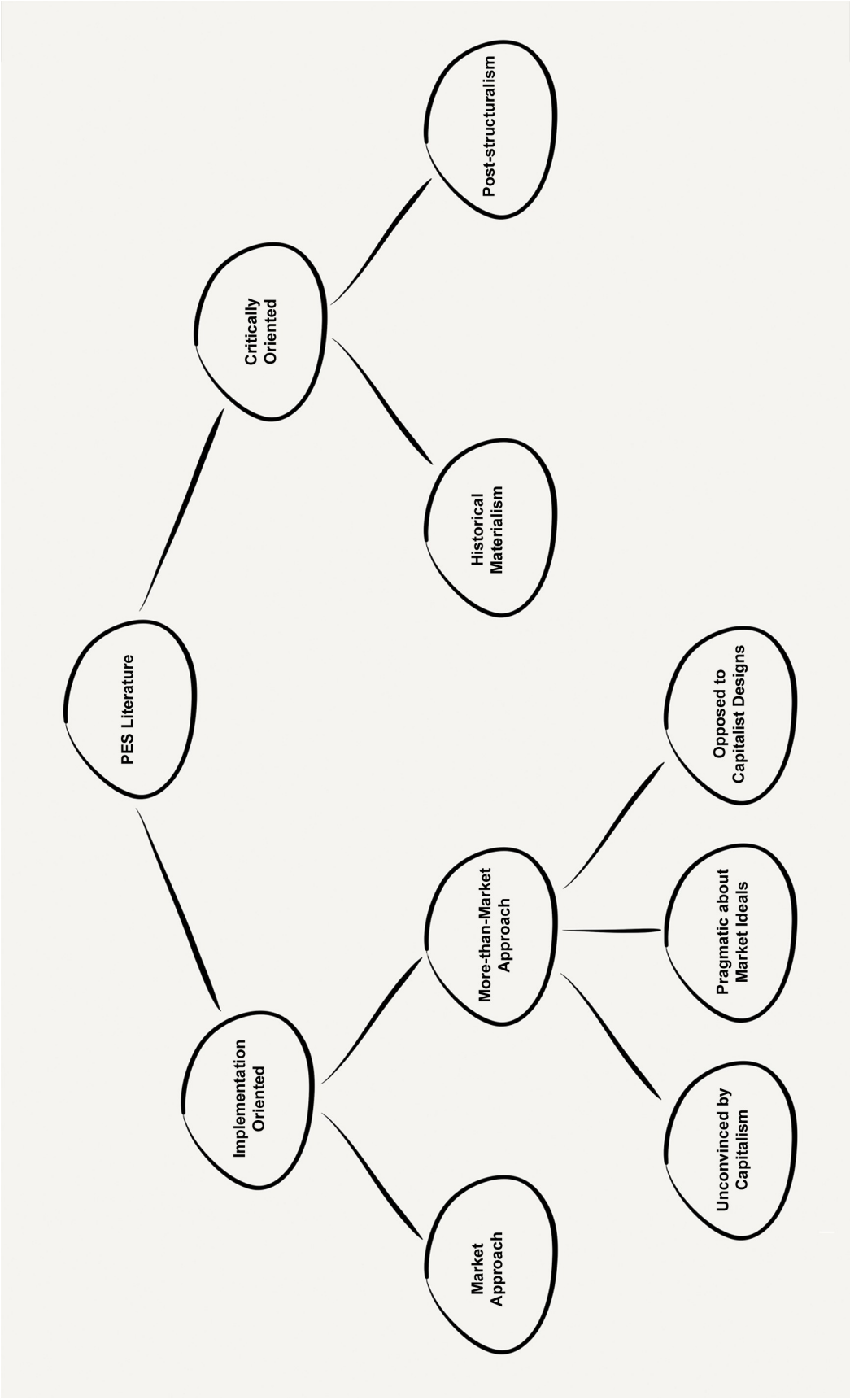


Figure 2.1: Categories of Literature

modernity" (Peet and Watts 1996, 3). In contrast to the understanding that overarching systems such as "the economy" structure the behaviors and activities of actors, this approach is more concerned with the processes that produce governable subjects (Luke 1999; Agrawal 2005a). The idea is that social relations are governed and power is exercised in far more diffuse ways, for example through the promotion of particular social norms that constrain the behavior of subjects and lead to the desired outcome.

My research is oriented squarely towards the critical end of the spectrum and is based in a hybrid framework of historical materialist and post-structuralist theories. In the pages that follow, I review the literature relevant to this position and provide a critical evaluation of its utility in my engagement with PES in Costa Rica. I begin with the literature concerning neoliberalism and environmental conservation. Specifically, I review the material critiquing the interface between conservation and capitalism, I discuss the Marxist and post-structuralism foundations of that critique, I explore the literature that considers the form and nature of neoliberalism, and I present the analytical framework within which this study is situated. Ultimately, I argue that the neoliberal conservation frame must be conceptualized as an on-going and ever-adapting process of neoliberal*ization*. This segment of the literature is handled first in order to make my conceptual positioning immediately clear. In the second part of this review, I turn to the implementation-oriented literature, which broadly accepts the economic valuation of nature. I do this to provide greater understanding of the vision and logics underlying the push to bring these concepts into practice. Finally, I present some of the critiques put forward specifically of "payments for ecosystem services" and identify how my engagement complements

the work that has already been done.

Neoliberal Nature

Capitalist Conservation

In recent years there has been a concerted effort among practitioners and policy-oriented scholars to re-make the relationship between conservation and development. Alliances have been forged to unite the interests of large-scale conservation organizations with those of international development, in an attempt to resolve the inherent tension between them. It is an alliance that is "characterised by an aggressive faith in market solutions to environmental problems" (Brockington and Duffy 2010, 470), and one that is responsible for the proliferation of mechanisms to financialize the social encounter with nature. While the relationship between conservation and capitalism is long and intertwined (Adams 2004), it is only recently that an attempt has been made to bring the two into agreement on such an extensive scale.

Capitalist interests may have motivated many early conservation initiatives (such as parks development and the protection of certain species) (Brockington and Duffy 2010), but this conservation was carried out in constant conflict with economic development. It was possible to create expansive protected areas to satisfy the romantic ideals of elite individuals, but this necessarily meant that development (and, thus, capitalist accumulation) had to be excluded. Likewise, development could be carried out in the most distant reaches of the globe, but it required sacrificing the "wildness" of nature in those places. In the colonial era, this translated to what has become known as "fortress conservation", in which large swathes of "pristine" and

"exotic" nature were de-populated and guarded to create landscapes that conformed to European ideals (Brockington 2002). It also translated to creation of management regimes that exploited resources for use in imperial development. Similar antagonisms can be found in the conservationist debate represented by Gifford Pinchot and John Muir in the North American context, with respect to Pinchot's ethos of conservation-for-future-use and Muir's preservationism (Nash 2001). The post-War development boom and a resurgence neo-Malthusian thinking only deepened the idea that conservation was in contest with social needs (Linner 2003).

By the 1980s and early 1990s, however, the conservation movement began to see the antagonism between conservation and development as unproductive. With initiatives like the Earth Summits and treaties like Agenda 21 and the Convention on Biological Diversity, conservationists and bureaucrats began to push the idea of "sustainable development", which was supposed to bring concerns for the environment, society, and the economy together to create socio-environmental and economic conditions that could be sustained indefinitely (Redclift 2005). It was, in a way, a modern restoration of Pinchot's conservation-for-future use. It was also the manifestation of a belief that growth did not (or *should not*) have to be compromised. The inherent tension between conservation and development, however, is rooted in foundational contradictions within capitalism itself.

As James O'Connor (1988) famously identified, a "second contradiction" of capital arises because capitalist production, rooted in the growth imperative, depends on the very resources that it depletes. This "capitalistically produced scarcity of nature" inevitably leads to under-production, ultimately threatening capitalism's existence

(O'Connor 1988, 34). Following the logic laid out in Marx's "first contradiction" (in which it was said that the exploitation of labor would lead to an over-production crisis), O'Connor anticipates environmental limits to capitalist growth. Importantly, these "natural limits" are seen to be produced by the internal contradictions to capitalism itself, rather than external conditions of the natural environment. Just as Marx predicted that the over-exploitation of labor would ultimately lead to the self-destruction of capitalism, O'Connor believed over-exploitation of the environmental conditions of production would lead to the same result.

While its future remains uncertain, however, capitalism has proven to be considerably more adaptive to these constraints on growth. Drawing on Polanyi's (1944) concept of the "double movement", in which markets and society are locked in constant mutual reconstruction, Castree identifies four "environmental fixes" to "the endemic problem of sustained economic growth" (2008a, 146). These "fixes" are essentially the adjustments made to capitalist development so that growth can be sustained in the face of O'Connor's "second contradiction". In other words, they are the ways in which capitalism tries to overcome its own internal conflicts. Of these "fixes", the first is the most relevant to the rise of "ecosystem services" as a concept – it says that capitalism's internal contradictions can be overcome by "bringing [nature] more fully within the universe of capital accumulation" (Castree 2008a, 147).[9]

9 The remaining three fixes explain the more conventional extractive relationship between capitalist development and nature; the second fix concerns the subsumption of previously protected or state-controlled nature, the third concerns the expansion of capitalist metabolism of nature, and the fourth concerns the off-loading of state responsibilities for ensuring environmental stability (Castree 2008a, 147-149).

The recent move has been to re-conceptualize both conservation and development so that one necessarily brings about the other. This not only represents "an increase in the intensity and variety of forms of capitalist conservation", it marks a fundamental "shift in the conservation movement's own *conception* of these practices" (Brockington and Duffy 2010, 470, emphasis original). This transformation has been so complete that "the idea that capitalism can and should help conservation save the world now occupies the mainstream of the conservation movement" (Brockington and Duffy 2010, 470). It seems that scholars and activists increasingly subscribe to the maxim that we must "sell nature to save it" (McAfee 1999, 133).

Within geography, a community of scholars has emerged that is uneasy with this trend, believing that the new alliances re-frame conservation so that it "fuels processes of capital accumulation" (Brockington and Duffy 2010, 470). Corson, for example, suggests that "the international biodiversity conservation agenda has created new … spaces for global capital expansion" and opened new opportunities for the uneven accumulation of wealth (2010, 579). In other words, this approach to biodiversity conservation is more about extending the reach of global capitalism than it is about expanding ecologically sound management. These scholars have taken up an agenda that seeks to critically understand and counter the growing acceptance of this phenomenon, under what is broadly a critique of neoliberal environmental governance.

Foundations of the Critique: Marxism

> If nature at the millenium is, more than ever, a distinctively capitalist nature – one made and remade as a commodity form within the specific logics of capitalist production, competition and accumulation – then Marxian political

> economy offers indispensable critical resources for making sense of and contesting those logics (Castree and Braun 1998, 7).

The foundations of the Marxist critique of environmental governance can be found in Neil Smith's seminal work, *Uneven Development* (1984). In that book, Smith articulates his theories on the "production of nature" under capitalism. This is the idea that capitalism "produces" new social relations with nature that are based on the logics of capitalist production, most specifically concerning the profit and accumulation imperatives. This provides an understanding of "how capitalism constructs and reconstructs whole landscapes as exchange values under the profit imperative" (Castree and Braun 1998, 8). It is a Marxist theorization that has sought to re-orient questions about environmental management to address fundamental issues of social justice – who controls access to resources, what are the implications of their use, and who ultimately benefits? The most important aspect of this contribution is demonstration of how the logics of capitalism re-frame the relationship between society and nature. These themes have run throughout the work of geographers for decades now.

Cindi Katz, for example, began to confront the capitalist accumulation of nature through conservation in an essay titled *Whose Nature, Whose Culture?* (1998). Katz explains how "capital's need for clear channels of access to control nature and environmental resources" was manifested in new practices and language that, among other things, conceived of conservation as "investments" and protected areas as "biodiversity banks" (1998, 48). The act of protecting nature, as she saw it, was an assertion of control over resources (an "accumulation strategy") that imposed a

particular set of values and beliefs about what activities and what uses of nature were acceptable. Conservation, in these terms, could be seen as an act of appropriation not just for the purposes of protecting nature, but for consolidating control and advancing particular objectives. "To all appearances," Katz explaines, "the preserved landscape is secure; but … its conversion to resource in some global accounting ledger has fundamentally altered its status and temporality" (1998, 49). Deferred consumption of material resources, under this conception, was expected to have some future payoff whether it be in the form of ecotourism development, discovery of pharmaceutical compounds, carbon offset trading, or some other yet-to-be-imagined scheme.

Smith (2007) builds on the ideas of Katz (1998) by explaining how, over the intervening decade, the capitalist production of nature has only deepened the use of conservation as an accumulation strategy. This, he explains, has been achieved through a transition from the "formal" to the "real" subsumption of nature, which can be understood as a process that is making nature more fully capitalist – facilitating the circulation of capital through nature, but also the circulation of nature through capital (Smith 2007). This analysis is an extension of Marx's commentary on the real and formal subsumption of labor – the formal subsumption occurred when workers were brought into a wage relationship with capital, but the real subsumption occurred when the relationship between capital and labor was transformed to one in which the laborer's role was pre-defined by existing social organization (Smith 2007). Accumulation, in the first instance, is facilitated by bringing more and more workers into the wage relationship but is (to an extent) contingent upon those workers' willingness to labor. In the second, on the other hand, accumulation is facilitated by

the conditions of society, in which workers are pre-figured as elements in production and dis-empowered in their roles. Similarly, with nature, Smith (2007) suggests that the formal subsumption exists in the extraction of resources for productive activity (nature is brought under capital to fuel the process of accumulation), while the real subsumption emerges in the transformation of this relationship with nature from "an incidental effect" to an "intended strategy" (Smith 2007, 33). The "capitalization" of nature (i.e. the commodification and circulation of nature) was once an "unintended consequence" of production, but is now a "strategic goal" (Smith 2007, 33). In this scenario, accumulation is facilitated not just by the ever-increasing commodification of biological material, but also the financialization of the entire human encounter with nature, including ecosystem functions and management activities.

Under Smith's conception, the production of nature in this advanced stage allows for capital to increasingly control how society uses (or protects) nature. Social decisions about the form and fate of nature are being handed over to the markets, and "[a]ny choice over what kinds of environments and landscapes are to be produced, and for what purposes, increasingly passes from any semblance of broad social discussion into narrow class control" (Smith 2007, 30).

The accumulation of nature, of course, is occurring on multiple fronts and in ways that do not necessarily involve production. While Katz (1998) and Smith (2007) illuminate the ways in which capitalist conceptions of nature are resulting in the accumulation of control over natural resources and management practices, Harvey (2003) draws our attention to the way that accumulation is also achieved through a process of dispossession. This is actually just a revision of Marx's concept of

"primitive accumulation", which was formulated to explain the origin of surpluses that allowed for the capitalist mode of production to emerge. It can be understood as the original enclosures that divorced the producer from the means of production and permitted accumulation beyond any one individual's productive capacities (Corson and MacDonald 2012). This entailed what Marx saw as the "'forcible usurpation' of common property" through violence and state-sanctioned theft (Glassman 2006, 610). As Harvey points out, however, the term "primitive" suggests that this accumulation occurred long ago and, thus, "is considered no longer relevant" (2003, 144). Instead, he argues that this process of accumulation through "predation, fraud, and violence" is ongoing (2003, 144) and offers the alternative "accumulation by dispossession" to clarify. This appreciates the fact that not only is wealth accumulated through capitalist re-production, it is also stolen through various processes, including privatization, commodification of labor, debt, and appropriation of assets, to name but a few (Harvey 2003, 145).

Of course, "accumulation by dispossession" frequently concerns nature. Swyngedouw (2005), for example, discusses how it has played a role in political struggles over water, and whether or not it should be managed by public or private interests. As he explains, "privatization" is simply a more acceptable name for accumulation by dispossession, which conceals the predation, fraud, and violence under the conventional wisdom that "privately owned and market organized production" leads to "the most optimal output and the most socially desirable distribution of value" (2005, 83). He goes on to explain how states have condoned, if not encouraged, the consolidation of private control over water resources through everything from wholesale auctioning of resources and infrastructure in former to

socialist countries to the institution of favorable regulatory climates (Swyngedouw 2005). The result, of course, is much narrower involvement in governance and decision-making processes, decreased access for those who cannot afford to pay for services, and expanded accumulation for the new owners.

When viewed through these Marxist lenses, the expansion of capitalism into the realm of conservation and resource management can be seen as an attempt to organize society under the logics of capitalist economics and bring ever greater aspects of the world under its control. Application of the critique, then, is counter-hegemonic. Fundamentally, critics that adopt this framework are approaching environmental questions with an eye towards social justice – conservation is not just a matter of ecological management, it also has important implications for the distribution of resources and social governance. While the critical literature is deeply indebted to these Marxist critiques, other frameworks can also offer tools for addressing the same concerns.

Foundations of the Critique: Post-structuralism

Beginning in the 1990s, a community of scholars started to emerge that was concerned with the ways in which "discursive relations – and not just market relations – organize social and ecological change" (Castree and Braun 1998, 16). This group had been profoundly influenced by the production of nature thesis and the Marxist concern for social justice, but it held that the social construction of nature involved "more than just capital and commodities conventionally understood" (Castree and Braun 1998, 6). Following the work of Antonio Gramsci (and others), they turned their focus to the role of discourse and representation, recognizing that

“struggles over meaning are every bit as 'material' and important as practical struggles” (Castree and Braun 1998, 13).

Arturo Escobar was (and remains) a key figure in the move towards a post-structuralist political ecology. In an important essay (Escobar 1996), he made the case for the discursive study of political, economic, and ecological issues. It was based on the belief that discourse not only concerns linguistic theory, but that it is also inseparable from the construction of “material reality”, accepting that language not only reflects the world around us, but that it is actually constitutive of it (Escobar 1996). What may first seem a rather outlandish idea becomes less so when it is understood that human “knowledges have material effects, insofar as people may believe and act according to them” (Castree 2001, 13). Escobar deploys these ideas to demonstrate how capitalism has evolved, through discourses of sustainability and biodiversity conservation, into an “ecological phase” where capital has developed “a conservationist tendency, significantly different from its usual reckless, destructive form” (1996, 326). Furthermore, Escobar asserts the importance of a post-structuralist approach “as a means to ascertaining the types of knowledge that might be conducive to eco-socialist strategies” (1996, 327) – in other words, a means of imagining and enacting “alternative productive rationalities”.

The post-structuralist intervention to political ecology found its most comprehensive articulation in Peet and Watts's edited collection, *Liberation Ecologies*. In the opening chapter, Peet and Watts (1996) identify several limitations to the traditional political ecology framework, and then formulate “liberation ecology” to capture new conceptual directions that have “extended the frontiers of political ecology” (Peet and

Watts 1996, 9). These new directions include attempts to make explicit "the causal connections between … capitalist growth and specific environmental outcomes"; to integrate the politics of everyday resistance and civic movements into questions of resource access and control; to assess the role of civil society and non-state actors in environmental issues; to integrate a "plurality of perceptions" through a number of lines that situate knowledges and reveal how particular understandings emerge as authoritative; and to revise the notion of "ecology" to reflect more contemporary conceptions of chaos, disequilibrium, and instability (Peet and Watts 1996, 9-13). This turn strongly retains the Marxist concern for social justice, but it opens a realm of possibilities for approaches to those issues, most specifically drawing on ideas from discourse theory. As they indicate, the framework of liberation ecology is by no means a settled matter with firm boundaries or doctrinal consensus. Rather, it remains subject to "the fiercest debates" and is composed of highly varied (and sometimes contradictory) conceptual footings – an expression of its own postmodern character. Despite this, however, these ideas have gained traction, and many scholars are writing in this tradition.

Goldman (2001), for example, picks up the post-structuralist call to action and pursues a critique of environmental governance in Laos using an ecological version of the governmentality frame. "Eco-governmentality", as he refers to it, is formulated from the ideas of Michel Foucault, who saw government less as a hierarchy of structured power relationships and more as an "art" (Goldman 2001). From this view, the power of government is exercised not merely through structures that enforce state will, but through social practices and norms that produce subjects best suited to achieve government policy. It concerns the rationalities of state and,

importantly, *non-state* actors and the "technologies" through which they exercise power. This is a far more diffuse interpretation of the way that power operates, the way that ideology infuses policy, and the way that policies become practice. Applied to environmental concerns, as Goldman (2001) has done, the task becomes one of understanding how, for example, development agencies, conservation organizations, individuals, and the state interact to deploy normalizing ideas about nature and/or visions for development that result in particular outcomes (i.e. conservation and/or capital accumulation). This broadening of the focus from economic relations to more general social relations opens possibilities for locating sites of power. It is through this that "the art of eco-government … leads to new forms of capitalist expansion and new modalities of power/knowledge" (Goldman 2001, 499).

The ideas of Foucault have also been applied in formulation of the similar "environmentality" (Agrawal 2005; Luke 1999). The work of Agrawal (2005), for example, concerns the making of subjects that are best suited to achieve certain conservation objectives. The idea is that "environmental subjects" (i.e. people with conservation-oriented values) are formulated not simply through the powerful colonizing forces of government or the influential mechanisms of the economy, but also through specific social practices in particular social contexts (Agrawal 2005). The concept of environmentality "refuse[s] to accept the common social-scientific practice of using identity categories [eg. class] … to infer people's interests" (Agrawal 2005, 167), as doing so "fail[s] to attend to the many different ways in which people constitute themselves [and] arrive at new conceptions of what is in their interest" (Agrawal 2005, 166).

More recently, Fletcher (2010) has extended the concept of environmentality to intermesh with the critiques of neoliberal conservation, formulating "neoliberal environmentality". He does so by integrating Foucault's (2008) articulation of a neoliberal version of governmentality. Neoliberal governmentality, Fletcher (2010) explains, differs from the earlier "disciplinary" form in the way it produces governed subjects. Whereas "a disciplinary governmentality might seek to lower the birth rate through a public media campaign aimed to frame extramarital sex and pregnancy as immoral and irresponsible", a "neoliberal strategy … might simply reduce the welfare benefits provided for children, thus altering the incentive structure within which reproductive decisions are made" (Fletcher 2010, 175). Fletcher suggests that extending this distinction to environmentality is a particularly useful contribution to the critique of neoliberal environmental governance, as it allows for consideration of the more-than-economic social relations that factor into conservation politics.

Neoliberalism

As many have pointed out (e.g. Peck and Tickell 2002; Larner 2003; Castree 2010a), it seems that "neoliberalism" (and analysis of it) is everywhere these days. Indeed, the contemporary critique of the intersection between conservation and capitalism largely falls under the banner of "neoliberal conservation" or, alternatively, the "neoliberalization of nature".[10] The "neoliberal" label, however, is often used quite loosely to refer to any form of pro-market ideology. This imprecision has been criticized by scholars on the grounds that it results in the loss of meaning, becoming "nothing more than a vehicle for academics who like to criticise things that they do

10 An important distinction can be made between these two conceptions – one is an ideology, the other a process – though they are often used interchangeably. In this and the following section, I will elaborate the reasons that they should be understood differently.

not like" (Igoe and Brockington 2007, 445). Despite its loose usage, the *ideology* of neoliberalism is quite clearly defined (and generally agreed upon) by the community of scholars critically engaging with it. Neoliberalism is an economic concept that stresses free trade, private enterprise, and a limited role for government, and it is most often embraced by political conservatives. As identified by Castree (2008a, 142-143), the key features of neoliberalism include: privatization, marketization, deregulation, re-regulation, the establishment of market proxies, and an array of flanking mechanisms (figure 2.2). Various other interpretations may include decentralization and "devolution of governance to non-state actors" (Fletcher and Breitling 2012, 402), and the primacy of individual liberty over communal responsibility.

Of course, as many empirical studies have shown (e.g. Fletcher and Breitling 2012; Matulis 2013), practice rarely aligns neatly with ideology. The archetypal conception described by Castree almost certainly exists nowhere as such – indeed, he acknowledges that his characterization is an abstraction of "multiple 'neoliberalisations' extant in the world" (2008a, 142; 2008b) and that, given geographical variation, "[o]ne would hardly expect 'neoliberalism' to operate uniformly across the globe" (2008a, 134). What purpose, then, does this conceptualization serve?

The smooth-edged conception of neoliberalism presented (and then problematized) by Castree (2008a) is useful in its own right. The "ideal type", as articulated by sociologist Max Weber, helps to order our perception of disordered reality (Weber

Key Features of Neoliberalism
(Castree 2008a, 142-143)

1. *Privatization* – the transfer of "previously state-owned, unowned, or communally owned" property to private hands. This can include titling of previously untitled lands held in possession.

2. *Marketization* – the assignment of prices through market mechanisms to facilitate exchange. This is one means of placing a monetary value on ecological functions.

3. *Deregulation* – the "'rollback' of state 'interference'" in markets. This can be the removal of previous restrictions on land use and their replacement with incentive-based measures.

4. *Re-regulation* – the "deployment of state policies" that facilitate the neoliberalization process. This can include mechanisms that instate or stabilize markets.

5. *Market Proxies* – the restructuring of the "residual public sector" to operate more like the private sector. This can include the management of public institutions under profit- rather than social-imperatives (for instance the re-purposing of biological reserves from sites of preservation to "sights" of tourism).

6. *Flanking Mechanisms* – the encouragement of charities, NGOs, and private organizations to fill the void left by the state. This can include, for instance, non-governmental management of conservation efforts.

Figure 2.2

2007 [1904]). It is intended to represent a distillation of actually existing cases, even though it may only ever have loose correspondence to any one of them. As Jessop explains, even though "[t]hese configurations are never found in pure form … their

conceptual construction may still be useful for heuristic, descriptive, and explanatory purposes" (2002, 460). The ideal-type also constitutes a reference point that helps to bind our research together, so that broader-scale conclusions can be drawn. While caution against "overly universal understandings" is advisable, the ideal-type provides structure for reading across empirical studies (see Bakker 2009; Castree 2009), allowing them to be seen as more than just "a patchwork of qualitatively distinct parts that are relatively incommensurable" (Castree 2008b, 155).

There is danger, however, that the ideal-type can be misinterpreted as comprising the necessary and essential elements of a phenomenon, rather than serving as a device for conceptualizing it. In that case, the focus shifts to extreme examples and risks overlooking actual cases where certain elements exist only to a degree. In other words, it has a tendency to make "the real thing" seem as though it is not a perfect representation of itself. In assessing the "neoliberalness" of a particular case it would be a mistake to conclude that it has no neoliberal characteristics simply because it lacks certain "ideal" elements (eg. markets) or includes other antithetical ones (eg. government involvement).

There is a growing number of scholars focused on the ways in which the "policies and practices" of PES "deviate considerably from neoliberal doctrine" (Dempsey and Robertson 2012, 758). Shapiro-Garza, for example, contends that "the great majority of PES initiatives around the world maintain a strong, if not exclusive, degree of intervention by the state" and have "essentially become federally funded rural subsidies" (2013, 6-7). Fletcher and Breitling (2012), as well, highlight a gap between the neoliberal vision and actual execution of certain environmental policies

in Costa Rica and suggest that practices deviate so significantly that they could actually "be described as a subsidy in disguise" (2012, 408). In fact, they go as far as asking to what extent institutions can "deviate from a free market ideal before they can [no] longer properly be labeled 'neoliberal' at all" (2012, 410). Their suggestion is that when "ostensibly neoliberal structures are actually supported by decidedly non-neoliberal practices", they may not be "amenable to characterization as 'neoliberal' at all in any meaningful sense" (2012, 410). These conclusions, however, result from a view of neoliberalism that does not adequately appreciate the unfinished and ever-adapting nature of the neoliberalization process.[11]

Neoliberalization

The tension between the ideal-type conceptualization of neoliberalism and manifestations of deployed neoliberal policies might mean that there are limitations to the use of neoliberal*ism* as an analytical construct, but various theoretical interventions have refined the concept and formulated the idea of neoliberal*ization*, a process that is only ever partially complete. As Castree has pointed out, "it has become axiomatic among researchers that they are investigating a spatiotemporally variable *process* … rather than a fixed and homogeneous thing" (2008a, 137, emphasis original; see also Heynen and Robbins 2005).

11 Importantly, this is not intended to suggest that the conceptualization of neoliberalism put forward by Fletcher and Breitling (2012) is somehow lacking sophistication, or even that it does not appreciate the hybrid and piecemeal character of "actually existing" neoliberalisms. Drawing on Foucault (2008, 218), they explain that their perspective "views neoliberalization in conservation policy not merely as an economic program but as a 'whole way of thinking and being,' … that is, an overarching approach to governing human behavior in general" (2012, 404). They are careful to acknowledge that neoliberalism is invariably expressed "in syncretism with alternate conservation strategies and local sociocultural formations" (ibid.). Despite this, however, their analysis emphasizes the ways in which neoliberalization has failed to influence conservation policy in Costa Rica, rather than the ways in which it has taken root. As a result, they have overlooked some important instances where neoliberal policies have already begun to enter practice (Matulis 2013).

Peck and Tickell (2002), for example, present the case for "a process-based analysis" of neoliberalization that is "neither monolithic in form nor universal in effect" (2002, 384). Their contention is that studies considering the effect of neoliberalism must focus on change "rather than on binary and/or static comparisons between a past state and its erstwhile successor" (Peck and Tickell 2002, 383). The effect of doing otherwise is to simultaneously overstate its colonizing power (neoliberalism does not occur as a blanket proposition) and understate its integration into social organization (neoliberalization often occurs even alongside overtly non-neoliberal practices).

Similarly, Brenner and Theodore have stressed that studies must "explore the path-dependent, contextually specific interactions between inherited regulatory landscapes and emergent neoliberal, market-oriented restructuring projects" (2002, 351). Their emphasis is on the "contextual embeddedness" of neoliberalism in contrast to an abstract and idealized neoliberal ideology, "in which market forces are assumed to operate according to immutable laws no matter where they are 'unleashed'" (2002, 351). They offer the concept of "actually existing neoliberalism" as a way of handling the messy realities of studying embedded neoliberalism and avoiding the pitfalls of ideological conceptions. This can be thought of as the tangible ways in which neoliberal ideas play out within the "legacies of inherited institutional frameworks, policy frameworks, regulatory practices, and political struggles" (Brenner and Theodore 2002, 351).

Interventions such as these provide an understanding of neoliberalism as less of a monolithic force that displaces previous modes of economic governance and more of

a perpetually unfinished project. From this point of view, it is not essential that every aspect of the idealized neoliberal*ism* exist for neoliberal*ization* to be occurring, and it is not essential that the process be complete for detrimental consequences to emerge. Neoliberalization can even exist simultaneously with overtly non-neoliberal practices, when new policies interact and overlap with existing ones – it is the messy product of complex histories and diverse geographies. "Actually existing" neoliberalisms are the result of context- and place-specific histories, rather than grand location-independent theories (Brenner and Theodore 2002). In this sense, the result of neoliberal policies is always multiple neoliberalisms, according to local conditions. They are frequently, therefore, ideologically fragmented and may only vaguely resemble each other when compared across space and time – neoliberal reform leads to divergent outcomes, "not … a neoliberalized end of history and geography" (Peck and Tickell 2002, 383). As Castree points out, "neoliberal practices always … exist in a more-than-neoliberal context" (2006, 3).

Since there is no finished product, no point at which the neoliberalization process is complete, neoliberalism can exist even in cases that deviate substantially from the idealized conception. When it is present, it is always to varying degrees according to the success of its promotion, its confluence with existing regimes, and the resistance mounted against it. That is why, in many empirical cases, no matter how overwhelmingly non-neoliberal actual practice proves to be, there is still the possibility of encroaching neoliberalization. It is important, therefore, to uncover and assess even the most subtle instances of neoliberal influence, in order to understand the serious consequences that can often still exist.

The neoliberalization concept demands more nuanced understandings of governance practices, and it forecloses on the wholesale categorization of particular policies or projects as patently neoliberal. In my view, however, whether or not the "neoliberal" label can be attached to a program as a whole may be less important than whether or not certain aspects have undergone a degree of neoliberalization great enough to have identifiable detrimental consequences, whether they be the expansion of existing inequity or the reconstitution of a new field of "winners" and "losers". That said, there are some reasons why this alternative process-based conception of neoliberalism is also deficient. Just as there is a danger that the conception of neoliberal*ism* (the abstract and idealized ideology) will obscure "actual" instances of neoliberalization, there is also the danger that rigid adherence to the neoliberal*ization* conception "will obscure the common 'logics' and processes operating within or between otherwise different spatiotemporal settings" (Castree 2008a, 137). In other words, neoliberalism is neither a strictly local phenomenon unrelated to broader patterns of governance, nor a monolithic force acting universally and uniformly across space. In order to provide a meaningful path forward, an analytical framework that reconciles the tension between the ideology ("-ism") and process-based ("-ization") conceptions is needed.

Towards an Analytical Framework

In making their case for a process-based analysis of neoliberalization, Peck and Tickell (2002) begin "to explore some of the more generic and abstract features of the neoliberalization process" (2002, 382). As with Castree (2008a; 2008b), they are concerned that "overly specific analyses of particular neoliberal projects … may downplay neoliberalism as an extra-local project" (McCarthy and Prudham 2004,

276). What they set out is an attempt to find a middle-ground to overly general conceptions of "monolithic and omnipresent" neoliberalism and "excessively concrete and contingent" instances of neoliberalization (Peck and Tickell 2002, 381-382). They are in search of some way to draw the connections between discrete projects with specific instances of neoliberalization and the broader patterns that constitute this era of neoliberal governance. What they recommend is an understanding of "the variable ways in which different 'local neoliberalisms' are embedded within wider networks and structures of neoliberalism" (Peck and Tickell 2002, 380).

Peck (2004) elaborates on this idea, offering an approach to unifying the case study research that does not rely on abstraction or the formulation of an ideal-type model. Starting from the position that there is no "pure" neoliberalism, but rather only "institutionally mediated and geopolitically specific hybrids" (Peck 2004, 395), he suggests that the solution to the problem of cohesion between studies is in a "careful mapping of … hybrids-in-connection" (ibid., 403) – that is, unique and distinct neoliberalisms that have connections but do not constitute (or approximate) an abstract model.

In a similar vein, Brenner et al. assert that "the binary opposition between representations of neoliberalism as an omnipresent, hegemonic force, on the one hand, and its depiction as an unstable, hybrid and contextually specific presence, on the other, seriously impedes the critical investigation of patterns of market-oriented regulatory restructuring" (2010, 184). Instead, they formulate the concept of "variegated neoliberalization" as a way to handle this tension between the

generalized and particular forms. This approach eschews conventional articulations of difference and uniformity within conceptions of neoliberalism in favor of "variegation", or "systematically produced geoinstitutional differentiation" (Brenner et al. 2010, 207). It is a formulation that allows "neoliberalization processes [to be seen as] *simultaneously* patterned, interconnected, locally specific, contested and unstable" (Brenner et al. 2010, 184), instead of either universal or idiographic.

McCarthy and Prudham (2004) also grapple with the tension between the general and particular notions of neoliberalism in their attempt to establish some coherence between the studies in a special issue of *Geoforum* (35.3). In contrast to the "hybrids-in-connection" and "variegated" conceptions of neoliberalization, however, they rely on abstracted elements of an ideal-type neoliberalism that is quite similar to the one presented by Castree (2008a). They argue that "despite its polyvalence, neoliberalism may be understood as a set of coherent ideologies, discourses, and material practices" (McCarthy and Prudham 2004, 276). While acknowledging that the existence of defining characteristics and practices of neoliberalism is problematic, they walk the line between the ideology ("-ism") and process ("-ization") conceptions. It is an attempt to preserve the strength of empirical critiques in destablizing the phenomenon without foreclosing on the ability to also challenge it in abstract conceptual terms.

This is precisely the tactic used by Castree (2008a; 2008b), though he arguably does so with far greater analytical rigor. He too navigates a middle ground that draws on *both* conceptions – that is, he advocates the use of the ideal-type conception as a tool for reading across studies at the same time that he endorses the process-based

conception as the more realistic depiction of deployed neoliberalism. Whereas Peck (2004) and Brenner et al. (2010) go to great lengths in seeking a framework that avoids the universalizing character of an idealized model, McCarthy and Prudham (2004) and Castree (2008a; 2008b) are considerably more pragmatic, utilizing the idealized model for what it is worth without fully embracing the uniformity that it presents.

At the same time, however, Bakker (2009) argues that this approach falls short. She suggests that the discipline of geography is wary of universalizing interpretations of phenomena like neoliberalism and anticipates refusals among geographers to take-up Castree's formulation, offering instead a typological characterization of neoliberalism (Bakker 2010). The fear is that comparative analyses (and frameworks that articulate a level of coherence in neoliberal ideology) have the tendency of highlighting similarities, rather than differences, between neoliberal projects, the result of which can be reification and the reversal of "intellectually and politically useful [disruptions to] current understandings of neoliberalism" (Larner 2003). But Castree cautions that "a return to idiography" might be an equally perilous turn, as the inability to identify neoliberalism "in its perplexingly diverse and shifting forms" will render us unable to say anything meaningful about "neoliberal nature" in the first place (2009, 1792). Castree resists the idea that the world is "a patchwork of qualitatively distinct parts that are relatively incommensurable" (2008b, 155) and seeks some means of steering "between the 'dead-end' of idiographic analysis and the perils of overly universal understandings of how nature is neoliberalised" (ibid., 161). By interrogating its specific (local) forms it is possible to offer up resistance and counter its dominance, but by retaining the generalized, abstract, and idealized conception it

is possible to explore more the general consequences of governance in this "neoliberal era".

The conceptual positions that motivate Bakker's (2009) resistance to Castree (2008a; 2008b) are the same ones that have inspired Peck (2004) and Brenner et al. (2010) to formulate their hybrid and variegated alternatives. They all follow Larner's (2003) call to "give neoliberalism an identity crisis" (2003, 510) and resist the idea of that there can be a coherent overarching and generalized neoliberal ideology. However, these efforts might be viewed as a somewhat purist (and possibly excessive) attempt to remain true to the postmodern conviction that such universalizing ideas are untenable. Certainly it is important to maintain the critical geographical skepticism towards "spatially totalizing claims" (Peck 2004, 396), but embracing an ideal-type conception does not have to be seen as a betrayal of important critical traditions.

As Castree (2006; 2008b) has contended, another deeply rooted tradition in critical geography – critical realism (see Proctor 1998) – permits appeals to such idealized conceptions without betraying the position that the "real world" is far more fragmented and disorderly. Castree's "thought abstraction" might conceive of generalized characteristics of neoliberalism, but the model that results is not intended to replace or diminish the position that "actually existing" neoliberalisms will always be historically and geographically contingent. Castree's approach resists "the habit of confusing epistemic discussions about a phenomenon abstracted from its contexts of operation with ontological discussions about its actual behaviour and its material effects" (Castree 2006, 5). I see Castree's (2008a; 2008b) framework as the more direct route to the same objectives of Peck (2004) and Brenner et al. (2010). It

avoids both the perils of the universalizing concept of neoliberal*ism* and the idiographic tendencies of neoliberal*ization*. It is this framework that will guide my analysis of environmental governance in Costa Rica.

The Economic Valuation of Nature

The vast majority of the literature concerning "payments for ecosystem services" does not engage with the above critical perspectives. Implementation-oriented research (see figure 2.1), by contrast, broadly accepts the economic valuation of nature as either favorable or inevitable and proceeds by evaluating, debating, and prescribing best practices. The pages below appraise this body of literature by exploring the vision and underlying logics of PES, by seeking to understand the dominant Coasian approach to implementation, and by reviewing some of the alternative "best practice" debates. The purpose is to establish the context of scholarly support for financialized conservation and to gain bearings in the field to which my critique stands in opposition.

Vision and Logics

The practice of making payments for ecosystem services is about the formation of new social relations between land managers (e.g. farmers, indigenous groups, government actors) and the human beneficiaries of functioning ecological systems. More specifically, it is about establishing *economic* relations that (theoretically) transfer financial resources from "users" of services to "producers" who institute prescribed land management practices.[12] This requires, of course, the assignment of

12 I use the qualifier "theoretically" to convey the fact that most programs intended to instate PES only approximate the idealized user/producer relationship. As is the case with neoliberalism and neoliberalization, there is considerable distance between ideal-type conceptions of PES and actually-existing practices.

monetary values to ecological functions, which is an inherently complex and problematic proposition. An argument concerning how this valuation is to be achieved was articulated in a chapter (Goulder and Kennedy 1997) of an early agenda-setting book on ecosystem services (Daily 1997).

Goulder and Kennedy begin by suggesting that the question of nature's valuation cannot be escaped: "whenever societies chose among alternative uses of nature, they indicate (at least implicitly) which alternative is deemed to be worth more" (1997, 23). In other words, valuation is inevitable regardless of whether or not it is done in explicit monetary terms. From this position, it is then suggested that if ecosystem values are not made explicit, they will continue to be undervalued and overexploited – it is an argument that has propagated throughout the implementation-oriented literature (Costanza and Folke 1997; Daily 2000). Goulder and Kennedy (1997) consider several frameworks and methods for ascertaining ecosystem value. From an anthropocentric point of view, they consider various utilitarian forms of valuation that are based on the derivation of human satisfaction or benefit. These include direct and indirect use values (the value of fish for food and the value of plankton in sustaining those fish), consumptive and non-consumptive use values (the value of ducks for hunting and the value of ducks for watching), and "non-use" values such as existence value (the value of knowing the Grand Canyon exists whether or not an individual ever visits it) (Goulder and Kennedy 1997). They also distinguish between "strong" and "weak" forms of utilitarianism, which assert value based on the benefit to society as a whole and the benefit provided to individuals, respectively. From a biocentric point of view, Goulder and Kennedy (1997) consider the intrinsic valuation of nature, which is based on the idea that "other natural things have

intrinsic rights to exist and prosper, independent of whether human beings derive satisfaction from them" (1997, 26). They further consider valuation based on the "Kantian categorical imperative", which is a choice mechanism that requires the removal of an individual's own stake in the outcome before consideration of potential actions (Goulder and Kennedy 1997). It is a virtue-based (as opposed to a money-based) approach, to which Goulder and Kennedy (1997) devote only cursory attention.

Of the various forms of valuation presented, Goulder and Kennedy favor a "strong" form of utilitarianism which, they say, is conducive to the deployment of cost-benefit analyses as a way "to make ethical collective decisions about the preservation of nature" (1997, 27). Their assessment continues with an appraisal of the various methods for assigning value (e.g. avoided cost valuation, market value, contingent valuation, willingness-to-pay), indicating when the use of each would appropriate. Despite all their talk of value, however, they make no mention of exchange value or what might occur when nature is abstracted into service commodities "that are adequate to bear value in capitalist circulation" (Robertson 2012, 386). Importantly, Goulder and Kennedy's (1997) analysis of ecosystem valuation never considers whether or not nature *should* be valued in economic terms, only how and on which conceptual grounds it can be done. While they do acknowledge that "[f]undamental issues of fairness or distribution are ignored in benefit-cost assessments" (Goulder and Kennedy 1997, 43), they only make passing note of ethical considerations and the politics of "who decides".

Costanza and Folke (1997), on the other hand, consider the valuation of nature for

other objectives. While recognizing that "[c]onventional economic value is based on the goal of individual utility maximization", they suggest that "other goals, and thus other values, are possible" (Costanza and Folke 1997, 49). Namely, they consider valuation with respect to the goals of "ecological sustainability" and "distributional fairness". Operating under the assumption that these goals can be achieved through economic valuation, they attempt to formulate an approach within conventional frameworks and alongside the imperative of economic "efficiency". They suggest this can be achieved through a "two-tiered conceptual model" that "embeds both economic models and ecological models in a larger social process" (Costanza and Folke 1997, 57-58). For valuation in "fairness" terms, Costanza and Folke (1997) suggest that decisions may need to be made behind a "veil of ignorance" – that is, without consideration of one's own stake – and with broad community involvement. For valuation in sustainability terms, they suggest decision making based primarily on scientific assessment of ecosystems "without direct reference to current human preferences" (Costanza and Folke 1997, 57). Costanza and Folke (1997) advocate integration of alternative (social and techno-ecological) values into the economics of conservation in an attempt to reorient a form of social organization that has historically neglected such concerns.

Other implementation-oriented contributions to the literature, however, unabashedly advocate economic efficiency as the primary objective in valuing nature (Sierra and Russman 2006; Wünscher et al. 2008; Chomitz et al. 1999; Pagiola 2008; Wunder 2008; Wunder et al. 2008; Engel et al. 2008). These include a cohort of scholars, practitioners, and specialists associated with international development organizations and institutions such as the World Bank. Engel et al. (2008), for example, assert that

the "PES approach was conceptualized and undertaken as a mechanism to improve the efficiency of natural resource management, and not as a mechanism for poverty reduction" (2008, 671-672). This sentiment is echoed by Pagiola (2008), Wunder et al. (2008), The World Bank (2006), and even governmental agencies responsible for implementing such practices (FONAFIFO 2005). Commentators that hold this position often recognize that such programs have the potential to make a positive contribution to social well-being, but they are usually explicit about it being a secondary concern. Wunder et al. (2008), for example, refer to poverty alleviation, development, and employment creation as "side objectives" that have the potential to interfere with the efficient delivery of ecosystem services. Pagiola et al. suggest that "[s]ubordinating the objective of generating services to that of poverty reduction risks failing to deliver on the services, … thus undermining the very basis of the program" (2005, 249). Researchers that embrace this vision for PES generally hold the belief that social welfare is best provided through economic growth – they are less concerned by inequity so long as wealth is broadly increasing, and they usually reject redistributive measures that seek to aid the less fortunate.

Many of these views are in tension with one another, but contributors to the implementation-oriented literature broadly accept PES as the future of ecological management. Their disagreements become mere variations on the approach to actually carrying out these programs, whether it be through a state-centered, market-oriented, or hybrid model. The dominant approach to making these "payments for ecosystem services", however, embraces markets as the most efficient and effective way of carrying out transactions (Muradian et al. 2010).

Coase

The market approach is largely based on the Coase Theorem, which says that given low transaction costs and enforceable property rights, bargaining will lead to "socially optimal" conservation outcomes, regardless of the initial distribution of property rights (Coase 1960; Muradian et al. 2010; Tacconi 2012). Coase developed his theory in a critique of Pigouvian economics, which relied on government interventions (such as taxes) to correct externality problems (Tacconi 2012). Coase, by contrast, claimed that intervention by the state was unnecessary because externalities were actually a reciprocal problem (Tacconi 2012) – the polluter and the polluted both have a stake in the polluting. Coase believed that regardless of who held the property rights, voluntary negotiations could resolve the pollution problem in an efficient manner – that is, a "socially optimal" level of pollution would be determined through monetary exchange.[13]

Illustrating this, Regan (2012) uses the hypothetical example of a farmer and a refinery located on along a river:

> According to the Coase theorem, as long as property rights to the use of the river are clearly defined and the costs of transacting with one another are zero, the amount of effluent disposed in the river by the refinery will be the same regardless of who has the property right. If the farmer had the right to have the river's water free of the refinery's waste, the refinery could compensate him in exchange for a partial right to discharge effluent into the river. If the refinery had the right to use the river for effluent discharge, the farmer could compensate the refinery in exchange for less effluent released into the river.

The Coasian approach has become influential in conceptualizing PES and is routinely deployed in scholarship (Wunder et al. 2008; Engel et al. 2008; Muradian et al.

13 The dubious logic and many assumptions of this theorem (e.g. equal bargaining power, rational economic actors) will be critiqued below.

2010), even if it is usually imperfectly implemented in practice (Schomers and Matzdorf 2013). In particular, Coasian ideals have informed the World Bank's intervention into several national-scale PES schemes (World Bank 2006; World Bank 2007). Under the influence of Coasian economics, the narrative of ecosystem service conservation shifts from questions about the role ecosystems play in maintaining human well-being to questions of maximizing the efficiency and effectiveness of their provision (Farley and Costanza 2010). Wunder (2005), for example, articulates a (widely-cited) definition of PES that endorses these priorities (see figure 2.3). Most proponents of this approach hold a preference for private sector schemes (Wunder et al. 2008) and believe that the government's role should primarily be enforcement of property rights and minimization of transaction costs (Farley and Costanza 2010, 2063). These prescriptive understandings of what constitutes PES (e.g. Wunder's definition) leads to the pursuit of "best practices" without careful consideration of the broader implications. Caution and critical assessment are characteristically absent, and implementation moves forward under the assumption that schemes are benign.

Wunder's definition of PES
(2005, 3, emphasis original):

PES is:

1. **a *voluntary* transaction where**
2. **a *well-defined* ES (or a land-use likely to secure that service)**
3. **is being 'bought' by a (minimum one) ES *buyer***
4. **from a (minimum one) ES *provider***
5. **if and only if the ES provider secures ES provision (*conditionality*).**

Figure 2.3

Alternative Frames

While the Coasian view remains dominant (Muradian et al. 2010), alternative perspectives have also been articulated. A central debate within the implementation-oriented literature has been over the tension between Coasian market-based schemes and a range of other alternatives. This division is summarized by Farley and Costanza (2010) in their review of the conceptual bases of two PES-themed issues of *Ecological Economics* (Vol 65.4 and Vol 69.6). In that review, they make a distinction between "environmental economics" and "ecological economics". The latter, they explain, is characterized by "the multiple goals of ecological sustainability, just distribution and economic efficiency" and the use of both market and non-market mechanisms, while the former "prioritizes economic efficiency and tries to force ecosystem services into the market model" (Farley and Costanza 2010, 2060).

Clearly, the "environmental economics" approach encompasses the Coasian sentiments described above. The "ecological economics" approach, on the other hand, retains the concern for efficiency, but explicitly introduces social justice as an equally important factor. This approach is developed by Muradian et al. (2010) and the contributors to their special issue. They put forward a much broader conception of what constitutes PES that is based on an alternative definition. In contrast to the widely-cited market-oriented definition provided by Wunder (2005), Muradian et al. understand PES as the "transfer of resources between social actors [with the aim of creating] incentives to align … land use decisions with the social interest" (2010, 1205). It is a far less restrictive formulation that allows for "a large diversity of PES

initiatives" (Muradian et al. 2010, 1205), including an array of more-than-market implementations. Recognizing this variability, they classify varieties of PES on a continuous spectrum according to three criteria: the "importance of the economic incentive" in generating conservation, the "directness of the [incentive] transfer", and the "degree of commodification" that occurs (Muradian et al. 2010, 1205).

Depending on the institutional arrangements and the biophysical characteristics of the services (Farley and Costanza 2010), any number of PES strategies can be imagined within this "ecological economics" framework, only a few of which may incorporate markets or even financial transactions. As Muradian et al. (2010) suggest, market-based schemes require a high degree of commodification, but a scheme that employs government monopsony, for example, may require none at all, instead achieving provision of services through the prescription of certain land management practices. The "importance of the economic incentive" may also be minimal in cases where "intrinsic motivations" and cultural preferences are greater (Muradian et al. 2010). Furthermore, intermediaries often play an important role in coordinating transactions between "users" and "producers" of ecosystem services, sometimes even being carried out through, for example, investment in public goods rather than monetary exchange, meaning that the transfer of incentives can be rather indirect or even implicit (Muradian et al. 2010). This manner of classifying PES schemes presented by Muradian et al. (2010) is far less prescriptive and opens the door to a range of implementation possibilities. As they assert, it "goes beyond the dichotomy between State-driven and private-driven schemes and does not distinguish between 'genuine' and 'PES-like' interventions" (Muradian et al. 2010, 1206).

Tacconi, however, believes that "it may be useful to move beyond the characterization of the different approaches to PES as environmental economics or ecological economics driven because they present significant overlaps" (2012, 34). He finds reason to navigate a middle ground between the two perspectives, constructing something of a hybrid conceptualization. While he provides evidence for the "limited applicability of true Coasian transactions" (Tacconi 2012, 35), he also reiterates the importance of efficiency, conditionality, additionality, and a preference for voluntary participation. At the same time, however, he retains the concern raised by Muradian et al. (2010) that markets may lead to inequitable distribution of benefits and fall short of sustainable provision of services. Tacconi (2012) concludes by presenting his own definition of PES and prescribing an array of best practices. This is characteristic of contributions to the implementation-oriented literature. Each intervention (e.g. Engel et al. 2008; Muradian et al. 2010; Farley and Costanza 2010; Tacconi 2012) re-hashes definitions and best-practices from slightly different perspectives. While they differ substantially in their motivations and strategies, they all still accept the fundamental basis of the economic approach to conservation.

Fletcher and Breitling (2012) suggest that such incentive-centered management (no matter which conceptual variation is employed) effectively endorses a neoliberal environmentality. As I explained in my review of the critically-oriented literature above, this is precisely the reason many remain uneasy with any sort of economic valuation at all. Concerns over a departure from our current ethics-based framing of conservation, however, are frequently rebuffed with reassurances that the "intrinsic" value of nature – that is, nature's inherent value or the value it has for its own sake –

is entirely compatible with the new economic direction.

Intrinsic and Extrinsic Valuation

The argument that intrinsic and extrinsic forms of valuation are compatible is frequently made on the assumption that it is possible to appreciate nature for aesthetic and cultural reasons, and make ethics-based management decisions, even while we pursue economic valuation. Skroch and Lopez-Hoffman (2010), for example, argue that economic valuation is just another tool in the set and that it does not displace other (non-monetary) ways of valuing nature. They make the claim that "the intrinsic and existence value of land and biota" can be "quantified in cultural and social terms", even while other services are valued in monetary terms, and though it remains unclear precisely *how* these "quantified" social and cultural values can be weighed against competing uses that have explicit monetary values, they hold that "[e]conomic arguments are not outweighing noneconomic arguments for conservation" and that the "intrinsic value of nature is not diminished" (Skroch and Lopez-Hoffman 2010, 325). Juniper (2013), as well, goes to great lengths to reassure his readers that we may still value nature intrinsically even as we pursue economic valuation. Indeed, Juniper insists that we must maintain a moral stance in which nature's intrinsic, aesthetic, and spiritual value is important beyond the prices that can be attached to it (Juniper 2013).

Adams and Redford, however, maintain that "[e]conomic calculations have always trumped … qualitative valuations of nature" (2010, 328), and they suggest that there is no reason to believe the case would be different with conservation. Worse than this, Farley and Costanza contend, "conditional monetary PES … might actually

backfire by 'crowding out' the intrinsic motivation to do the right thing for society" (2010, 2063). Vatn, for example, explains that payments made to encourage provision of ecosystem services may cause actors to think "in instrumental terms, calculating what is individually best to do" (2010, 1250), rather than basing their actions on assessments of what is best for society. Ariely et al. (2009) show that extrinsic motivations of behavior (i.e. material rewards or benefits) may actually undermine and displace other motivations for prosocial behavior. Intrinsic valuation of nature, therefore, may not be compatible with economic valuation, and pursuit of the latter could be counterproductive to long-term conservation objectives. Nevertheless, the argument that the two forms of valuation are compatible and, indeed, complementary continues to be made quite forcefully in dismissing dissenting views.

The compatibility argument, however, misreads the concerns raised in much of the critically-oriented literature. While some of the resistance to economic valuation does, indeed, stem from a belief in nature's infinite intrinsic value (e.g. McCauley 2006), much more arises from *a concern for social justice*. The common thread in the critical literature is that economic valuation has justice implications far beyond any rhetorical or practical utility it may provide – something that is largely (or completely) ignored in mainstream accounts. Thus, resistance frequently stems from the belief that economic valuation does more to promote uneven accumulation of wealth and extend the reach of global capitalism than it does to expand sound ecological management (Corson 2010; Brockington and Duffy 2010).

Social Justice Critiques of PES

Having completed a general review, I now return to the critically-oriented literature to consider the segment that is directed specifically at "payments for ecosystem services". The theoretical traditions that concern the distribution of wealth and control over resources foster a skepticism of the monetary valuation of nature, not because of a belief that nature should be valued culturally, but because doing so economically risks introduction of the same logics that have delivered social inequity and unchecked class power elsewhere. From this view, the application of economic logic to conservation produces social and environmental injustice, making its extension into new realms rather problematic. The critical literature addressing PES is largely directed at articulating opposition to the concept on social justice grounds.

As briefly discussed in Chapter 1, Robertson (2012) explains how mainstream assessments of the ecosystem services concept fail to consider the implications of assigning exchange values to nature. He contends that when nature is abstracted into service commodities "that are adequate to bear value in capitalist circulation" (Robertson 2012, 386) – that is, when complex ecosystem functions are reduced, for example, into tradeable tCO_2e offsets and circulated in markets – new opportunities for accumulation emerge. In other words, surplus value can increasingly be extracted by traders in speculative markets as nature comes to be "something always already encountered in the commodity form" (2012, 386). Furthermore, when mechanisms are developed to capitalize on abstracted service commodities, it fundamentally alters the rationale for why conservation is undertaken. Rather than being something that is done because it provides social and ecological benefit to local communities, it becomes something that is done because it leads to economic gain, for elite

individuals. These shifting management priorities present opportunities for control over resources to be narrowed, as conservation itself becomes an "accumulation strategy" (Katz 1998; Boyd et al. 2001; Smith 2007).

Beyond the opening of opportunities for uneven accumulation, there is a concern that market-based approaches to conservation will displace other methods of resource governance. As Sullivan (2009) explains, certain forms of governance, such as those often employed by indigenous communities, are inherently incompatible with economically oriented decision making. Market strategies are, in many ways, antithetical to ensuring social and ecological well-being. They are an anti-democratic means of resource management that transfer decision making authority away from those most immediately affected by conservation decisions to those who are able to leverage the greatest capital. In Smith's words, markets trade "any semblance of broad social discussion" for "narrow class control" (Smith 2007, 30), orienting decision-making towards profit maximization, rather than social welfare and biodiversity enhancement.

A third concern raised in the critical literature relates to the potential that financialized conservation has to encourage land grabbing (Fairhead et al. 2012) – that is, the dispossession of land from certain groups, as other more powerful ones consolidate their control over lucrative resources. Fairhead et al. (2012), for example, explain that vulnerable communities (especially those with tenuous possession of land) are at particular risk, as familiar patterns of resource alienation unfold under the banner of environmentalism. As the production of ecosystem services increasingly presents opportunities for monetary return, control of lands

suitable for their production or eligible for enrollment in PES will increasingly be sought after. Communities occupying those lands, but lacking knowledge of the arcane legal mechanisms required to hold on to them, may find themselves under threat of dispossession. The large scale (and sometimes violent) removal of local communities is often a direct consequence of these activities (Cavanagh and Benjaminsen 2014).

A fourth concern relates to the issue of uneven access to PES programs and the economic benefits they provide. Navigating the complex enrollment procedures often requires specialist knowledge and disposable time, so it is primarily the more elite segments of society that are able to access them. Zbinden and Lee (2005), for example, have found that those who participate in these programs are often wealthier, more highly educated, and have greater "off farm" income than those who do not participate. Porras (2010), as well, has shown how these programs can attract large scale (and often times foreign) corporate investment interests, allowing the greatest benefits to be captured by those already most privileged. Furthermore, Porras (2010) has shown, PES programs not only favor large landowners and investors, they may entirely exclude the landless – without ownership of land, individuals are unable to participate and, thus, receive no share of the benefit from resource conservation.

The common thread of the critically-oriented literature that engages directly with payments for ecosystem services is a concern for social justice. Research that contributes to this segment of the literature is not satisfied by the intrinsic/extrinsic compatibility argument and remains unconvinced by the idea that economics is the solution to environmental crisis. Following the path laid out by these social justice

critiques, and drawing on the theoretical framework provided by the critically-oriented literature above, my engagement with the PES concept centers on issues of uneven development, the accumulation of benefits, and shifting property relations.

Conclusion

At first glance, the idea of PES seems to be a logical solution to an important problem. But critical examination of PES schemes from a political ecology perspective reveals several concerning elements with regard to both social justice and uneven development. The implementation-oriented literature, however, does not equip scholars to explore or question such important concerns; it simply accepts the economic valuation of nature as favorable or inevitable and proceeds by assessing, evaluating, debating, and prescribing "best practices".

As I showed above, the implementation-oriented literature often takes as its starting point the assumption that nature's valuation cannot be escaped. The claim is that whichever way nature is used – whether it is consumed or protected – society makes a value judgment as to its worth. The observation that nature is being degraded, despite all of the important life-sustaining functions that it has, then leads to the conclusion that nature must be *undervalued*. From here a significant leap is then made to say that valuing nature in explicit monetary terms will reveal its "hidden" value, facilitate the internalization of positive environmental externalities, and lead to expanded conservation. Constrained by this framing, debates within the implementation-oriented literature are reduced to practical choices between market, non-market, and other monetary-based designs, all of which fundamentally accept the extension of economic logic into the environmental realm.

Understanding how valuation is linked to the uneven processes of capitalist development, on the other hand, requires challenging assumptions about the suitability of economics in guiding environmental management decisions. As I explained above, the critically-oriented literature provides a framework for questioning such logic and, thus, I draw upon it to inform my engagement with PES in this thesis. The critically-oriented segment of the literature takes as its starting point an understanding that capitalism is both self-contradictory in its reliance on nature and surprisingly adaptive under the constraints of its (capitalistically produced) "natural" limits. The concept of neoliberalism captures the ideological breed of capitalism that is increasingly applied to the conservation of nature, even if it does not perfectly correspond to actually-existing practices. Neoliberal*ization*, I showed, provides a much better way of conceptualizing the phenomenon.

Within the critically-oriented literature there are several other theoretical framings – such as Peck's (2004) "hybrids-in-connection" and the "variegated neoliberalization" of Brenner et al. (2010) – but these unnecessarily complicate the infrastructure of analysis. Instead of getting bogged down in conceptual equivocation, I follow Castree (2008a; 2008b) and appeal to an ideal-type neoliberal*ism*, even while conducting my research with the understanding that I will only ever encounter incomplete and ever-adapting neoliberal*izations*. The purpose is to open space for analysis guided by social and environmental justice. Rather than re-hash debates over subtle differences in epistemology, I approach my research from the position that is shared broadly across the critically-oriented literature – that is, from the position that resource management is inescapably an issue of justice – and I place my

emphasis on uncovering the "real world" implications of neoliberal ideology.

The service this provides, of course, goes beyond simple exemplification neoliberalism-in-action to converse with the broader literature and place my conceptual tools in a new light. In demonstrating how the imperfect deployment of neoliberal policies does little to stem their adverse consequences, I aim to temper growing emphasis on the ways that PES *deviates* from neoliberal doctrine (e.g. Dempsey and Robertson 2012; Fletcher and Breitling 2012; Shapiro-Garza 2013). While efforts to de-reify neoliberalism (Fletcher and Breitling 2012) and illuminate its practical contestations (Shapiro-Garza 2013) are admirable, they direct the critical gaze away from pressing justice considerations at crucial junctures where neoliberal policies push through ostensibly non-neoliberal practices. Rather than emphasize the ways in which neoliberalization has failed to influence conservation policy, my handling of the concepts places attention on the ways it has taken root *despite* all of its apparent contradictions. Where other authors have overlooked the material effects of neoliberal policies, I uncover its active manifestations. My aim is not simply to identify examples of neoliberalization, but rather to reveal something about the deceptively ambiguous way in which it operates, the way it defies classification and, as a result, is able to evade scrutiny.

CHAPTER III

Methodology and Analysis Techniques

This thesis is based on a combined approach of semi-structured interviews and critical analysis of policy and project documents. The primary group of documents analyzed were those associated with two World Bank projects targeted at Costa Rica's PSA, but also included are those produced by FONAFIFO, its agents, and consultants (see figure 3.1). A total of 41 interviews with 33 people were conducted, in person and via Skype, during a 5 month period at the end of 2011 and beginning of 2012 (see figure 3.3).[14] They included key figures in the administration, operation, and policy formulation, such as government officials, development specialists, forestry engineers, landowners, and organization representatives from institutions such as FONAFIFO, the World Bank, *Colegio de Ingenieros Agronomos*, *Instituto Tecnológico de Costa Rica*, FUNDECOR, Conservation International, ASANA, ASIREA, ATAL, CEDARENA, and IngeoFor (see figures 3.2 and 3.3).

This work draws on over 10 years of contact with Costa Rican conservation and environmentalism, in both academic and professional capacities. I have traveled to Costa Rica on eight separate occasions as a student, a teaching assistant, a volunteer, a tour coordinator, and a researcher (Masters and PhD). During that time I have established contacts in local communities, non-governmental conservation networks, the National Park Service, the Ministry of Environment, the private tourism industry, and at four Costa Rican universities.

14 This entails 34 formal and 7 informal interviews. Of these 41, eight were "call back" interviews with key figures, resulting in N=33.

In this chapter, I discuss my methodological and analytical approach. The purpose is to lay out my theoretical stance on information gathering, detail the specific techniques I used for data collection, and explain how that information was analyzed. First, I engage with several of the broader methodological philosophies for the research that was undertaken. Then I outline my approach to the field and my techniques for gathering information, providing specific details on the methods employed. This includes detail on the the selection and analysis of textual materials, techniques for interviewing and analyzing audio data, an explanation of the role of observation, and a discussion of ethical considerations. Finally, I will also explain why the analysis techniques employed are the most suitable for the type of research that is being conducted.

Methodological Framework

My stance on information gathering is rooted in a perspective that understands knowledge as unavoidably mediated by culture and social relations. Regardless of whether or not "truth" exists outside of human perception, it is never possible to access it directly (even by applying supposed "unbiased" methods that isolate the researcher from "contaminating" data). This is not, however, to embrace a form of relativism and claim that all methodological approaches therefore stand on equal footing. As Proctor explains, "some (social) explanations are more adequate representations of reality than others", even if "all are … always 'partial truths'" (1998, 361). While accepting that there are differing accuracies in the representation of "truth", I remain firm on the human inability to "really know". This position has reaching implications with regard to my approach to information gathering.

Concerning human sources, for instance, I recognize that no method of collecting information can afford a direct window into the "inner being" of the subjects – nothing can reveal the underlying truth about who the people are. In an interview, for example, subjects choose how they represent themselves and the world around them, carefully crafting a message about what they want the interviewer to know. What is articulated in an interview is largely a reflection of the relationship between interviewee and interviewer, rather than a reflection of true identity. I do not, however, interpret this as somehow concealing the reality of the situation. Rather, I understand it as an important process of articulating identity. It is not as though the information a respondent communicates is completely irrelevant or unrepresentative of who they are. I interpret the interview process as an individual's construction of identity in relation to me, as the researcher. For this reason, it is essential to be aware of and to reflect upon how my identity is at play (Rose 1997). The relationship between interviewer and interviewee is something that must be factored into analysis, but I do not view it as something that confounds access to "truth". The "truth" is always right there; identity can not be faked. Even an outright lie is indicative of some characteristic of the respondent's identity, in relation to me. The problem of interpreting information collected in an interview, then, becomes one of understanding how an interviewee relates to me, and why.

There are, of course, an array of methods for collecting information from human subjects that is much broader than just interviews. Silverman (2007), for example, questions the assumption that interviews should be the default method of qualitative research. He argues that too often "researchers prefer to 'manufacture' their data

rather than to 'find' it" (2007, 37), which is a somewhat provocative way of saying that researchers neglect rich sources of information, opting instead to set up interviews that, too often, produce contrived responses to predetermined research questions. Part of the problem, he explains, is "the conventional assumption … that interviews give us direct access to people's perceptions" and that other techniques merely serve to test "if such perceptions and meanings are 'distorted'" (2007, 51). One key source of information that Silverman identifies as neglected by qualitative researchers is observations. Instead of intervening, a researcher can watch what subjects do in their "natural" settings, interpreting the meaning of actions and what they say about who the person is and what they believe. This is especially useful in situations where the identity of the researcher is particularly influential of the subjects actions (i.e. when the subject wishes to represent things in a particular way for political purposes). Additionally, textual sources of information can serve as a record of culture, reflecting the identities and perceptions of the people or organizations who created them.

A methodology that uses a single approach (i.e. interviews *or* observations *or* textual analysis) risks overlooking important aspects of the subject being researched and missing the broader picture of the situation on the ground. For this reason, I am integrating all three into my technique for gathering information. The hope is that they will complement each other to offer a fuller picture than I would otherwise be able to obtain.

Textual Sources

Methods

Textual materials documenting the conception, implementation, and evolution of the PSA are abundant. Costa Rica, being one of the first to implement such a scheme, has received a great deal of attention from conservation and development organizations. As a result, the scheme is extensively documented in agency reports, assessments by non-governmental organizations, institutional and legal documents, interest group publications, and periodicals, as well as in written histories of conservation.

The primary set of documents analyzed for this research are those associated with two World Bank projects: the Ecomarkets Project and the follow-on Mainstreaming Market-based Instruments for Environmental Management Project (MMBI), frequently referred to as Ecomarkets II. These projects constitute the World Bank's intervention to Costa Rica's national program, and they represent how the institution has attempted to influence and direct the program's trajectory. Of all the actors with an interest in Costa Rica's PSA, the World Bank is by far the most influential, since much of the program's funds are tied to World Bank financing and there are close personal relationships between Bank agents and the management at FONAFIFO.

The World Bank project documents articulate clear objectives that have played an important role in the program's trend towards more neoliberal forms of governance. In my analysis, I considered the entirety of the documents made publicly available by the Bank for these two projects. Those that are the most important to this analysis are the two Project Appraisal Documents for the Ecomarkets and MMBI projects

(World Bank 2000a; World Bank 2006), the Implementation Completion and Results Report for Ecomarkets (World Bank 2007), the Project Restructuring Document for MMBI (World Bank 2012a), and a series of Implementation Status and Results Reports for MMBI (World Bank 2011a, 2011b, 2012b, 2012c). See figure 3.1 for a complete accounting of the documents consulted.

My requests for access to other internal World Bank documents stalled in the Bank's review process. In hope of attaining a fuller picture of reasoning, motivations, strategy, politics, debates, and ideologies, I placed a request with the Bank archivist for access to internal memos, meeting minutes, reports, and any other associated materials. After delays and repeated requests, I was informed that such requests for recent and ongoing projects was unusual and would require a lengthy review process before they could be released. Nothing has yet been received.

The second, equally important, set of documents are those that have been produced by FONAFIFO, its agents, and consultants. As the Costa Rican agency responsible for implementing the PSA program, FONAFIFO produces many reports and studies that have documented the program's evolution (and neoliberalization) over time. These include a report that articulated an important early vision for the program, authored by FONAFIFO's PSA Chief and a consultant (Sage and Sánchez 2002); a report on the social and environmental impact of the PSA in the Huetar Norte region, produced by FONAFIFO's lead consultant (Ortiz 2011); a paper that promotes the Costa Rican strategy, authored by FONAFIFO's Executive Director (Rodríguez 2003); a paper that recounts the Costa Rican experience with the payments scheme, authored by FONAFIFO's Executive Director and Natural Resources Management

Coordinator (Rodríguez and Sáenz 2002); an assessment of FONAFIFO's first decade of existence (FONAFIFO 2005); and various periodic reports on enrollment, contract distributions, payment levels, and financing (FONAFIFO 2010; FONAFIFO 2011a; FONAFIFO 2011b; FONAFIFO 2011c; FONAFIFO 2011d; FONAFIFO 2011e; FONAFIFO 2011f; FONAFIFO 2012).

A third set of documents considered are those connected to various legal and policy actions relevant to the PSA. They include the actual forest legislation (*Ley Forestal* 7575; *Ley Forestal* 7174; *Ley Forestal* 7032; *Ley Forestal* 4465), the executive decrees that concern implementation (MINAET 2013; MINAET 2012; MINAET 2011; MINAET 2010; MINAET 2009; MINAET 2008), the operations manuals issued to *regentes* (MINAET 2010b; MINAET 2009b; MINAET 2008b; MINAET 2007b), and documents that concern important shifts in policy such as the *Canon de Agua* (MINAE 2006). I also reviewed documents from other governmental agencies that are relevant to the PSA. These include a report by the *Ministerio de Planificación Nacional y Política Económica* on the Social Development Index (MIDEPLAN 2007), which is used in the PSA's prioritization scheme, and the National Forest Development Plan (MINAET 2011b).

Finally, a fourth set of documents are those produced by non-governmental organizations and professional associations that are integral to the PSA's operation and evolution. They include reports produced by the International Institute for Environment and Development (Watson et al. 1998; Rojas and Aylward 2003; Porras and Neves 2006; Porras 2010; Miranda et al. 2004; Miranda et al. 2003; Hope et al. 2007) and by Conservation International, authored in part by former Costa Rican

Environment Minister, Carlos Manuel Rodriguez (CI 2011). These also include documents from the *Colegio de Ingenieros Agronomos* that concern compensation rates for *regentes* (Colegio 2011a; Colegio 2011b).

The primary method that I used to locate these sources was to trace citations, beginning with other academic works. Looking at what materials were referenced in academic sources concerned with the PSA helped to identify key agencies and interest groups involved in the conception and implementation of the program. Once they were identified, I was able to broaden my search from previously cited materials to other documents those agencies and interest groups had produced and to other institutions with which they are affiliated. Abundant original material was located in this way. For instance, Pagiola (2008) was the initial publication that revealed the deep involvement of the World Bank in the PSA. I was then able to identify the many World Bank project documents identified above that are associated with their involvement. Also Sierra and Russman (2006), for example, reference a document produced by the IIED (Rojas and Aylward 2003). The IIED website, then, led me to several more of their reports and assessments of the PSA, most of which have never been analyzed in the academic literature.

A secondary method that I employed to locate these materials was to examine the links between various actors that have played key roles in development of the PSA. I identified the documents produced by Conservation International, for example, by tracking the associations of one of the most central figures in Costa Rican PES, Carlos Manual Rodriguez. Rodriguez was central to the formation of the PSA from its inception – as a member of the Legislative Assembly's Special Forestry

Commission, as Vice-Minister of Environment, and as Minister of Environment. Now, as a Vice President of Conservation International (CI), he is a driving force behind the organization's prominence in promoting PES around the world. Through these associations, I identified a document (CI 2011) proposing collaboration between CI and the government of Costa Rica that is integral to understanding recent policy shifts on hydrological services.

Analysis Techniques

I applied the techniques of critical discourse analysis to these materials in order to draw out the information related to the themes of my research. This required, of course, understanding the position of the institutions and individuals producing each document as well as the position of the bodies funding the study, as the information they present is inevitably oriented towards their objectives (e.g. development, conservation, social justice, a combination). The importance of this for me is in what these documents record about how the concept of "making payments" has been understood over time and how the present day scheme has come to be. These documents provide a record of important contextual information and factors motivating actions.

Figure 3.1, below, shows the documents arranged analytically, reflecting the way in which they were handled. They are grouped by their utility to my research. They are split, first, into policy documents and technical documents. The policy documents contain information about program objectives, strategies, practices, and impacts, while the technical documents are considerably more "objective" and data-oriented.[15]

15 This should not be taken to suggest that the technical documents are strictly reporting unbiased

These two groups are further sub-divided. The former is broken into "policy vision documents", "policy context documents", and "policy assessment documents", which lay out what various actors would like to achieve through the PSA, review the conditions and circumstances in which the PSA was implemented, and report the effects and outcomes of ongoing and completed efforts, respectively. The technical documents contain data about program participation and financing, operational guidelines, and legal frameworks, and they are sub-divided accordingly (see figure 3.1).

POLICY DOCUMENTS

Policy Vision Documents

These documents lay out what various actors would like to acheive and the steps that they plan to take to acheive them.

Title	Citation	Description	Utility
Ecomarkets Project Appraisal Document, #20434-CR	World Bank 2000a	World Bank's proposal for the Ecomarkets project.	Explains the vision the World Bank has for Costa Rica's PSA. Lays out what the Bank will do to see that those objectives are achieved.
Ecomarkets Project Information Document, #PID8876	World Bank 2000b	World Bank's baseline information about Costa Rica's PSA and proposed Ecomarkets project.	Lays the ground work the Project Appraisal Document.
MMBI Project Appraisal Document, #36084-CR	World Bank 2006	World Bank's proposal for the Mainstreaming Market-Based Instruments for Environmental Management project.	Explains the continuing vision the World Bank has for Costa Rica's PSA. Lays out what the Bank will do to see that those objectives are achieved.
MMBI Project Restructuring Document, #70624-CR	World Bank 2012a	World Bank's mid-term adjustments to the MMBI project.	Reviews the project status, explains delays, and proposes changes. Reveals ongoing evaluation of the Bank's vision.
Biodiversity Resources Development Project, #17207-CR	World Bank 1998a	The Global Environment Facility and World Bank's proposal for an early conservation support project.	Explains the early vision the GEF and World Bank had for conservation-development in Costa Rica.

factual information. All knowledge is situated, and what is reported inevitably reflects the position of the people and institutions that produced it (Rose 1997). Indeed, what the reported data says about the institutions reporting it is integral to my analysis.

“Making Sustainable Commitments”	World Bank 2001	World Bank Environment Strategy 2001	Articulates the Bank-wide approach to conservation development. It lays a framework for how Bank projects should support environmentally related activies.
“Toward a Green, Clean, and Resilient World for All”	World Bank 2012d	World Bank Environment Strategy 2012	Articulates the Bank-wide approach to conservation development. It lays a framework for how Bank projects should support environmentally related activies.
Evolucion Esperada para el Mercado de Pago de Servicios Ambientales en Costa Rica	Sage and Sánchez 2002	The "expected evolution" of the PSA, authored by a FONAFIFO's PSA chief and a consultant.	Articulates an important early vision for the program that includes marketization and state withdraw.
Plan Nacional de Desarrollo Forestal	MINAET 2011b	National Forest Development Plan	Specifies the Ministry of Environment's vision for forest development over the coming decade.
Strengthening the Water Payments for the Environmental Services Program in Costa Rica	CI 2011	Conservation International's "technical cooperation" proposal for strengthening the water payments scheme.	Lays out the vision for cooperation between FONAFIFO and CI on activities relating to hydrological services.

Policy Context Documents

These documents review conditions and circumstances in which the PSA was implemented.

Title	Citation	Description	Utility
“Forest Management and Competing Land Uses: An Economic Analysis for Costa Rica”	Kishor and Constantino 1993	World Bank report on Costa Rica's forest sector.	A pre-PSA Bank document concerning forest management and development in Costa Rica. Provides context for the World Bank's involvement in Costa Rican forest activities.
“Costa Rica: Forest Strategy and the Evolution of Land Use”	de Camino et al. 2000	World Bank report on Costa Rica's PSA.	Provides an overview of World Bank involvment in Costa Rican forestry from the Bank's perspective.
Making Space for Better Forestry	Watson et al. 1998	IIED's review of forest conservation policy in Costa Rica.	Provides context at the very start of the PSA. Shows an institution in transition.

Policy Assessment Documents

These documents review the acheivements, effects, and outcomes of projects that completed or ongoing.

Title	Citation	Description	Utility
Ecomarkets Implementation Completion and Results Report, #ICR433	World Bank 2007	Official World Bank review of the Ecomarkets project.	Reiterates the vision the World Bank has for Costa Rica's PSA. Assesses how well its objectives were acheived. Presents the "lessons learned".

Ecomarkets External Review	Sills et al. 2005	World Bank commissioned external review of the Ecomarkets project.	Carried out by an external (non-Bank) panel. Assesses how well objectives were achieved and the effect of the project on the PSA.
MMBI Implementation Status and Results Report, #ISR2710	World Bank 2011a	MMBI project status report.	Provides a mid-term assessment of the project's status and explains delays.
MMBI Implementation Status and Results Report, #ISR4984	World Bank 2011b	MMBI project status report.	Provides a mid-term assessment of the project's status and explains delays.
MMBI Implementation Status and Results Report, #ISR6508	World Bank 2012b	MMBI project status report.	Provides a mid-term assessment of the project's status and explains delays.
MMBI Implementation Status and Results Report, #ISR8626	World Bank 2012c	MMBI project status report.	Provides a mid-term assessment of the project's status and explains delays.
Biodiversity Resources Development Project Implementation Completion Report, #36179	World Bank 1998b	Official World Bank review of the Biodiversity Resources Development Project.	Reiterates the early vision the GEF and World Bank had for conservation-development in Costa Rica. Assesses how well its objectives were acheived. Presents the "lessons learned".
Social Impact and CO2 Fixation	Ortiz 2011	Report by FONAFIFO's lead consultant.	Assesses the social and environmental impact of the PSA in the Huetar Norte region. Reveals FONAFIFO's interpretation "social impact"
Paying for Forest Environmental Services	Rodríguez 2003	Promotes the Costa Rican strategy, authored by FONAFIFO's Executive Director.	Provides insight on how FONAFIFO views its own forest activities.
Pagos por Servicios Ambientales en Costa Rica	Rodríguez and Sáenz 2002	Recounts the Costa Rican experience with the payments scheme, authored by FONAFIFO's Executive Director and Natural Resources Management Coordinator.	Provides insight on how FONAFIFO views its own forest activities.
FONAFIFO: Over a Decade of Action	FONAFIFO 2005	Assessment of FONAFIFO's first decade of existence.	Thorough review of FONAFIFO's activities, achievements, and outcomes. Provides insight on how FONAFIFO views its own activities.
What are we learning from experiences with markets for environmental services in Costa Rica?	Rojas and Aylward 2003	IIED's review of PSA markets.	Provides an assessment of the PSA's experiments with developing markets for ecosystem services.

Costa Rica's PSA - A Financial Mechanism for the Recuperation and Conservation of Forest Cover	Porras and Neves 2006	IIED's review of the PSA in the context of markets for watershed services.	Assesses the development of markets under the PSA.
Fair and Green?	Porras 2010	IIED's review of the social implications of the PSA.	Assesses the social impacts and equity implications of the PSA
The Social Impacts of Carbon Markets in Costa Rica	Miranda et al. 2004	IIED's review of carbon markets in the Huetar Norte region of Costa Rica.	Assesses the social impacts of carbon markets under the PSA.
The Social Impacts of Payments for Environmental Services in Costa Rica	Miranda et al. 2003	IIED's review of the PSA's impact in the Virilla watershed.	Assesses the social impacts of the PSA.
Negotiating Watershed Services	Hope et al. 2007	IIED's review of Costa Rica's invovments with financing watershed conservation under the PSA.	Reviews watershed-related activities under the PSA at a critical transition in program financing.

TECHNICAL DOCUMENTS

Legal Framework Documents			
These documents specify the legal frameworks in which the PSA is being carried out.			
Title	Citation	Description	Utility
Ley Forestal 7575	Ley Forestal 7575	1996 Forest Law - established the PSA	Specifies the practices that constitute the PSA.
Ley Forestal 7174	Ley Forestal 7174	1990 Forest Law - stopgap law very similar to 7032 put in place after annullment	Provides context of the foundations on which the PSA was built.
Ley Forestal 7032	Ley Forestal 7032	1986 Forest Law - introduces CAFs and CAFAs, still supports plantation forestry, eventually annulled by Supreme Court	Provides context of the foundations on which the PSA was built.
Ley Forestal 4465	Ley Forestal 4465	1969 Forest Law - government's first intervention on forests, encouraged monoculture plantations, not "conservation" in today's sense	Provides context of the foundations on which the PSA was built.
Canon de Agua	MINAE 2006	Canon de Agua - establishes the water tariff and articulates regulations	Specifies the legal changes to program financing. Reveals fundamental shift in practice.

Operational Guideline Documents			
These are technical documents that present operational guidelines.			
Title	Citation	Description	Utility
Decreto Ejecutivo, No 37660-MINAET	MINAET 2013	Establishes annual PSA guidelines, priorities, rates, quotas.	Documentation of the Ministry of Environment's year-to-year objectives and vision for the PSA.
Decreto Ejecutivo, No 36935-MINAET	MINAET 2012	Establishes annual PSA guidelines, priorities, rates, quotas.	Documentation of the Ministry of Environment's year-to-year objectives and vision for the PSA.
Decreto Ejecutivo, No 36516-MINAET	MINAET 2011	Establishes annual PSA guidelines, priorities, rates, quotas.	Documentation of the Ministry of Environment's year-to-year objectives and vision for the PSA.
Decreto Ejecutivo, No 35762-MINAET	MINAET 2010	Establishes annual PSA guidelines, priorities, rates, quotas.	Documentation of the Ministry of Environment's year-to-year objectives and vision for the PSA.
Decreto Ejecutivo, No 35119-MINAET	MINAET 2009	Establishes annual PSA guidelines, priorities, rates, quotas.	Documentation of the Ministry of Environment's year-to-year objectives and vision for the PSA.
Decreto Ejecutivo, No 34371-MINAE	MINAET 2008	Establishes annual PSA guidelines, priorities, rates, quotas.	Documentation of the Ministry of Environment's year-to-year objectives and vision for the PSA.
Procedures Manual 2010	MINAET 2010b	Manual issued to regentes. Identifies management plan requirements, obligations, participation guidelines.	Documentation of the year-to-year program practices.
Procedures Manual 2009	MINAET 2009b	Manual issued to regentes. Identifies management plan requirements, obligations, participation guidelines.	Documentation of the year-to-year program practices.
Procedures Manual 2008	MINAET 2008b	Manual issued to regentes. Identifies management plan requirements, obligations, participation guidelines.	Documentation of the year-to-year program practices.
Procedures Manual 2007	MINAET 2007b	Manual issued to regentes. Identifies management plan requirements, obligations, participation guidelines.	Documentation of the year-to-year program practices.

Regente Fees	Colegio 2011a	Sets compensation rates for regente visits	Reveals how the professional association represents its regentes.
Enrollment Payments	Colegio 2011b	Set compensation rates for regente visits	Reveals how the professional association represents its regentes.

Participation Data			
These documents present participation and financing data.			
Title	Citation	Description	Utility
Program Data	FONAFIFO 2010	Presents historical payment rates by PSA modality.	Provides an understanding of program activity.
Program Data	FONAFIFO 2011a	Presents historical payment schedules by PSA modality.	Provides an understanding of program activity.
Program Data	FONAFIFO 2011b	Presents historical contracting levels by PSA modality.	Provides an understanding of program activity.
Program Data	FONAFIFO 2011c	Presents historical budget allocations by funding source.	Provides an understanding of program activity.
Program Data	FONAFIFO 2011d	Presents historical contracting and payment levels for indigenous communities by PSA modality.	Provides an understanding of program activity.
Program Data	FONAFIFO 2011e	Presents current payment rates by PSA modality.	Provides an understanding of program activity.
Program Data	FONAFIFO 2011f	Presents historical participation levels by region.	Provides an understanding of program activity.
Program Data	FONAFIFO 2012	Presents all of the institutions that have agreements with FONAFIFO.	Provides an understanding of program activity.

Figure 3.1: Textual Sources

With the documents classified by type and issue, the task of identifying key themes, strategies, and actions was greatly simplified and could be carried out in a systematic fashion. Within the policy vision documents, for example, I was able to identify themes such as market-based and user financing that cut across the discourses of various agencies. I contrasted varying visions, practices, and policies and identified their origin by tracing their propagation through the documents.

These documents, of course, are not an exhaustive source of the information relevant to understanding the neoliberalization of Costa Rica's PSA. I filled the remaining gaps from this textual analysis by way of interviews in the field portion of this research. Having gained a firm grasp of the politics, history, and context of the PSA through the review of these materials, I was well-prepared to target key individuals in the field that held the remaining specialized knowledge to develop a fuller picture of the evolving policy landscape.

Interviews

Methods

As with the textual sources, the primary method for identifying key actors in the field was to trace them from the documented evidence. My first step was to map the institutional relationships that are most central to the PSA. I was then able to expand the map with connections to other important bodies (see figure 3.2).[16] While this is, by no means, an exhaustive mapping of the players involved or of the connections between them, it represents several of the most important ones and those that I considered in this study. As depicted in figure 3.2, there are certain institutions (FONAFIFO, the World Bank, and MINAET) that exist within the inner-most sphere of influence. They connect outward to various other organizations in a variety of capacities.

16 This is, by no means, an exhaustive mapping of the players involved or of the connections between them. It simply represents the institutions and relations that I considered.

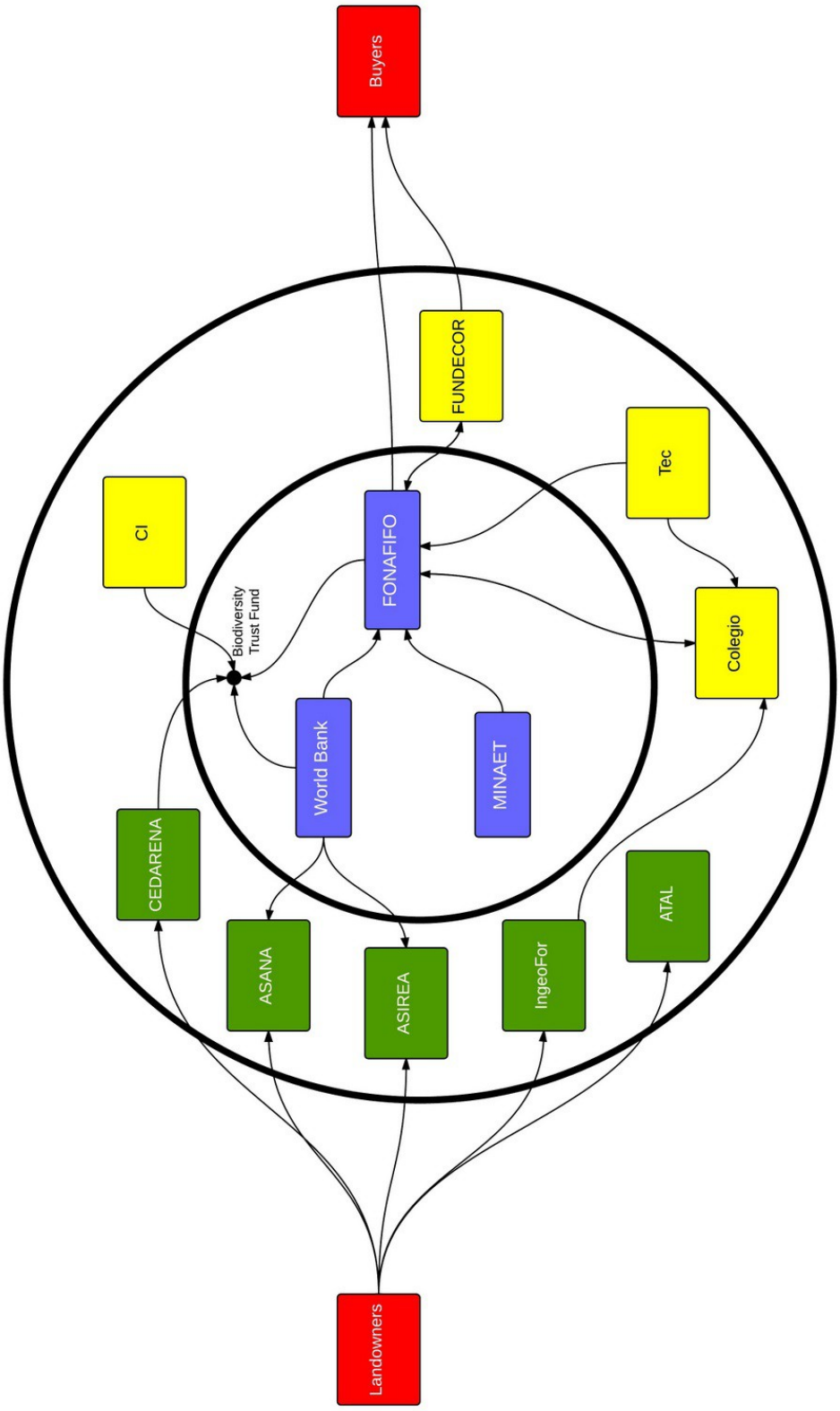


Figure 3.2: Map of Connections

The World Bank is placed inside of the inner-most sphere because of the unique relationship it has to the program, afforded by the substantial financing that it provides. Given that this relationship is of particular interest to my research, I interviewed a number of individuals that have been involved in the Bank projects. I also used project documents to identify other organizations tied to the Bank's activities. ASANA and ASIREA, for example, received institutional development funds and provided consulting to the Bank under the Ecomarkets project. As such, I sought interviews with representatives at each organization to better understand the nature of the relationship and the activities undertaken. Additionally, I identified CEDARENA and Conservation International as collaborating with the Bank and FONAFIFO on an MMBI sponsored effort to establish a Biodiversity Trust Fund. See Appendix 1 for an index and description of each of the organizations included in the interview portion of my research.

Using the documents produced by FONAFIFO, I identified connections to the *Instituto Tecnológico de Costa Rica* (or simply "Tec"), whose instructors frequently act as consultants to the agency. Interviews with representatives at Tec afforded insight into the institutional relationships behind PSA contracting and the *regente* profession. This drew my attention to the role of the *Colegio de Ingenieros Agronomos* in advocating the interests of professional *regentes*. Through connections at the *Colegio*, I then made further contacts to *regentes* and a private forestry engineering firm, IngeoFor. Using this "snowball" method, I was able to make connections to key figures that were well positioned to address the questions that I had.

A secondary method, in which I traced associations between individual actors associated with key developments in the PSA's history, was used to identify further institutions and contacts. This led me, for example, to contacts at FUNDECOR and, again, at Conservation International, as individuals at each of these organizations were instrumental in important developments of the program.

The roles that these institutions play in Costa Rica's PSA are diverse and multifaceted. They include the provision of contracting services, policy innovation and experimentation, policy implementation, program assessment and research, and program governance. Appendix 2 contains a classification of institutions by role, which I used to understand their relationships to other institutions and inform my questioning in the interviews. In all, I conducted 41 interviews with 33 people. Eight "call back" interviews were carried out with key figures in particularly important positions. Thirty four of the interviews were conducted formally with a semi-structured format. The remaining 7 were informal, carried out, for example, at a high level meeting of PSA officials and on PSA forest site visits. Figure 3.3 contains a list of the individuals interviewed.

Interviewee	Affiliation	Individual's Role	Institution's Role
Jane Segleau	ASIREA	Manager, Regente	ASIREA is a registered Costa Rican NGO that provides regente services. The organization received support under the World Bank projects for their contracting activities.
Jose Gonzalez	ASIREA	Regente	
Roberto Salas	ASIREA	Regente	
Jack Ewing	ASANA	President	ASANA is a registered Costa Rican NGO that works to ensure conservation of a regional biological corridor. The organization previously received support under the World Bank's Ecomarkets project to coordinate local contracting activities.
Steve Stroud	ASANA	Founder	

Interviewee	Affiliation	Individual's Role	Institution's Role
Andrea Herrera	CEDARENA	Regente	CEDARENA is an NGO that is involved in several conservation activities, including the PSA. The organization has been working with the World Bank, FONAFIFO, and Conservation International in development of the PSA's Biodiversity Trust Fund.
Igor Zuñiga	IngeoFor	Regente	IngeoFor is a private environmental engineering company. It provides regente services to its client landowners.
Alejandro Alfaro	Talamanca Caribe	Regente	The Talamanca Caribe Biological Corridor Association is an NGO that promotes the sustainable management of natural resources in the southern Caribbean region of Costa Rica.
Stefano Pagiola	World Bank	Senior Economist	The World Bank is a development organization that provides loans and grants to governments for development projects. It's stated objective is poverty reduction. The Bank's involvement in Costa Rica's PSA takes the form of two projects: "Ecomarkets" and "Mainstreaming Market-Based Instruments for Environmental Management".
John Kellenberg	World Bank	Sector Leader (MMBI), Task Team Leader (Ecomarkets)	
Sophie Herrmann	World Bank	Consultant	
George Ledec	World Bank	Lead Ecologist	
Dinesh Aryal	World Bank	Operations Analyst	
Nadim Khouri	World Bank	Task Team Leader (MMBI Project Appraisal)	
Gunars Platais	World Bank	Task Team Leader (MMBI)	
Benoit Bosquet	World Bank	Lead Carbon Finance Specialist	
Carlos Manuel Rodriguez	Conservation International and MINAE	Vice President (CI), former Minister of Environment (Costa Rica)	Conservation International is a prominent NGO that has embraced the use of PES in its activities. MINAE is the government ministry responsible for environment and energy; it oversees FONAFIFO.
Edgar Ortiz	*Instituto Tecnológico de Costa Rica* and FONAFIFO	Professor (Tec), Consultant (FONAFIFO)	The Technological Institute of Costa Rica is one of two educational institutions that trains regentes.
Oscar Sanchez	FONAFIFO	PSA Chief	FONAFIFO is the quasi-autonomous government agency tasked with implementing the PSA.
Juan Pablo Perez	FONAFIFO	Head of Limon Regional Office	
Luis Gonzales	*Colegio de Ingenieros Agronomos*	Forestry Lawyer	The *Colegio* is the professional association responsible for licensing regentes and advocating for their interests.

Interviewee	Affiliation	Individual's Role	Institution's Role
Fernando Guerrero	*Colegio de Ingenieros Agronomos*	Forestry Lawyer	They establish minimum rates that regentes should charge to ensure living wages.
Franz Tattenbach	FUNDECOR	Executive Director	FUNDECOR is a Costa Rican based international NGO. The organization was instrumental in developing Costa Rica's PSA and has continued to be involved. FUNDECOR has played a unique role in assisting FONAFIFO to develop agreements with private buyers of ecosystem services.
Ina Porras	International Institute for Environment and Development	Research in Environmental Economics	The IIED is a non-profit development organization that has conducted several studies of Costa Rica's PSA, several of which concern the social and distributional impacts of the program.
Alberto Herrera	Unaffiliated	Conservationist	Alberto is a plant ecologist and has been involved in Costa Rican conservation for many years.
Federico Alice	Unaffiliated	Regente	Federico is a licensed independent regente.
Christian Valenciano	Unaffiliated	Regente	Christian is a licensed independent regente. He was previously contracted by ASANA to coordinate PSA enrollment during that organization's involvement with the World Bank.
Giovanni Matamoros	Unaffiliated	Participant	Giovanni is a private landowner currently enrolled in the PSA under the agroforestry modality.
Leiner Vargas	UNA / CINPE	Professor	The Centro Internacional de Politicas Economicas (CINPE) is a research institute at Costa Rica's National University (UNA).
Mary Luz Moreno	UNA / CINPE	Researcher	
Confidential Informant #1	Private Firm	Regente	This company provides regente services to landowners.
Confidential Informant #2	FONAFIFO	Consultant	FONAFIFO is the quasi-autonomous government agency tasked with implementing the PSA.
Confidential Informant #3	ATAL[17]	Regente	ATAL (a pseudonym) is an NGO that promotes conservation and provides regente services.

Figure 3.3: Interview Dataset

Analysis Techniques

Conventional approaches to interview analysis typically utilize direct transcription –

17 "ATAL" is a pseudonym to protect the identify and reputation of those associated with it. Specific names and descriptive characteristics have been fictionalized to ensure anonymity.

that is, the conversion of audio data into textual data – so that it may be coded and analyzed more rigorously. However, this conversion of data from a dynamic form into a static form results in the loss of information that is routinely discerned in the interpretation of spoken word. Even when efforts are taken to record this information (e.g. through standardized symbols for hesitations, pauses, and false starts, or by noting tone and other verbal cues), the textual version will never perfectly represent the original audio. Humans have the ability to decipher meaning on many more levels than could ever be recorded in text.

Furthermore, if the original intention of direct transcription was to allow for non-linear analysis and the emergence of themes across interviews and interviewees, advancements in technology have made this intermediate step obsolete. In the past, recording was done using metallic tape, and review required laborious and imprecise cuing to evaluate non-sequential segments. The linearity of this process complicated workflows and made direct analysis of audio impractical. Today, however, recordings are digital, and clip indexing has been reduced to a matter of a few keystrokes. High-tech software packages such as Nvivo now even allow direct coding of audio clips.

For these reasons, my preference is to work directly with the audio data, instead of using transcribed textual data. In order to do so, I devised an audio analysis workflow that is based on the use of what I am calling “annotation” as an intermediate step to coding. These annotations constituted my first analysis of the audio data and included the initial indexing and coding phase. It was done linearly, and effectively created a “road map” of my audio files. The product of this allowed

me to then proceed with coded analysis of clips in a non-linear fashion, using the annotations as a guide for further data analysis. Timestamps on the annotations allowed me to then bookmark the audio file for immediate on-demand cuing of clips for subsequent review. At each index, an annotation comprising the topic of conversation, question posed, response given, analytical interpretation, and other pertinent information was attached so that the content of the clip could be considered textually.

After the entirety of the interview recordings was indexed and annotated, I performed a review of the textual annotation sheets for a second phase of coding. Having gained a clearer view of my dataset during the first complete review of the audio, I was able to refine and consolidate my coding. I used topical, thematic, and dispositional coding categories to classify the various segments of the interviews under an array of codes. They are included below in figure 3.4. Multiple codes, in most cases, were attached to each annotation.

Once this phase was complete, each code corresponded to a group of annotations that were related by a particular theme, topic, or respondent disposition. This allowed for connections to be drawn between interviews and for themes, trends, and ideas that were unanticipated to become evident. Unlike coded analysis of transcripts, however, each annotation linked back to an audio clip so that the original data could be considered directly. This allowed me to, for example, consider all the audio clips coded with “marketization” and “emphatic” alongside those coded with “marketization” and “dismissive” or “marketization” and “pragmatic”, helping to identify factions of people involved in the PSA across institutions. Analysis of the

Code Types		
Topics	Themes	Disposition
tariff	differentiation	conflicted
buyers	efficiency	emphatic
user-fee	anti-redistribution	dismissive
equity	individualization	secretive
property	prioritization	unaware
indigenous	accumulation	suspicious
origin	marketization	uneasy
re-entry	exclusion	dismay
SDI	privatization	pragmatic
influence	decentralization	exasperation
poverty	re-regulation	ambivalence
composition		frustration
delay		annoyance
financial sustainability		altruism
trust fund		bold
bank		genuine concern
work load		impatient
surveillance		candid
crisis		worry
compliance		forthcoming
laissez faire		neutral
cuota		disdain
competition		animosity
shift		sincere
payment levels		
rates		
small owners		
inept		
objective		
quasi-governmental		
social objectives		
economically rational		
persuasion		
recruitment		
restructuring		
quotable		
consultation		
enforcement		
carrot / stick		
advantage		
expropriation		

Figure 3.4: Category Codes

interview data proceeded in this way as I sought to understand the interconnections, tensions, and views of those I had interviewed.

Observation

A third technique that I employed to gather information in this study was participant observation. While this method is typically associated with ethnographic studies that require lengthy field stays, I use it in a secondary way to supplement the data that has been collected in the ways described above. I incorporate several revealing encounters that have occurred during my time in Costa Rica, and I draw on them to inform the claims that I make. Specifically, I employed observation techniques in three scenarios: while accompanying a *regente* and a representative from FONAFIFO on an inspection of enrolled lands, while attending a high-level meeting of PSA officials, and in everyday interactions in local communities.

My visit to a PSA forest site provided a unique opportunity to observe the interactions between landowners, *regentes*, and FONAFIFO. The format, of course, did not lend itself to conducting formal interviews. While I did conduct some informal questioning, the real value of this experience was in observing the interactions taking place and interpreting their meaning within the context of the activity being performed. This presented a revealing view of shifting social relations and practices as several relationship categories established by the PSA were acted out. In this scenario, the landowner was being audited by the *regente* to ensure that he had been compliant with the contract he had signed (that trees had been planted, signs had been posted, and management procedures were being followed). Simultaneously, the *regente* was also being audited by FONAFIFO to verify the integrity of the reports he had been filing. Finally, the landowner and FONAFIFO official were performing the conditional transaction between "buyer" and "seller". The interactions between these individuals speak volumes about about shifting

management, control, and reward schemes that are embodied in the PSA, affording me an important view of the program's social and material effects.

Figure 3.5: Inspection of enrolled land.
(Agent of FONAFIFO, landowner, regente)

The situation was similar, in terms of the constraints on my ability to conduct formal interviews, at the meeting of PSA officials that I was able to attend. While I was able to arrange some follow-up interviews at this meeting, the real value of the meeting itself was in observing and interpreting the interactions taking place. This included discussions regarding plans for adapting the PSA to forthcoming REDD+ policies, reports evaluating the social dimensions of current practice, and announcements about actions taken by the Comptroller General that relate to the program. Present at the meeting were officials responsible for implementation and management of the PSA, officials from other governmental departments (such as the AyA, CNFL, and MINAE) whose activities concern the PSA, and representatives from several organizations, including CATIE, NINA, and IIED.

The third setting in which I employed participant observation techniques was in the everyday life of ordinary Costa Ricans. This has proven critically important to my understanding of the PSA and its effects. For this I was able to draw on my more-than-a-decade of experience in Costa Rica. In particular, a nuanced understanding of cultural practices and social norms concerning property helped me to make sense of PSA-induced "privatization". Observations that I made of how Costa Ricans navigate the (flexible) boundaries around private possessions informs my understanding of shifting patterns of access to land and resources. Specifically, this draws on a revealing encounter that I had with a Costa Rican colleague and an unattended vehicle. The encounter and its utility is explained in detail in chapter 7.

Notes and Records

Each of the methods employed in this study required its own form of note-taking and record-making. For observations, the primary means of doing so was through written field notes. I carried a notepad with me at all times and recorded events as quickly as possible after they had taken place. In addition, I took time at the end of each day to review those notes, reflect on them, and record additional thoughts. This process served not only to fill the gaps that remained at the end of the day, but also to re-center my focus and prepare me for the following day's data collection.

For the interviews, digital audio recording was the obvious best choice. Audio recording greatly simplified the note taking process during the interview and allowed me to remain engaged with the interviewee. This freed me to devote greater attention to things such as expression, gestures, and posture. Written notes, however, still

supplemented the audio in interview settings as it allowed me to record important information about context, environment, and non-verbal communication. As with notes taken of my participant observations, I reflected on my interview records on a nightly basis and recorded additional thoughts. These included initial impressions, evolving understandings, and new/unanswered questions. Again, these reflections were useful not only for recording what occurred on a daily basis, but for processing and synthesizing the new information to which I had been exposed. It constituted an on-going process of analysis and evaluation and was central to my data collection methods.

Ethical Considerations

Research that includes human subjects has many ethical concerns surrounding the issue of data protection, as well as representing others' views. Both notes and audio records have the potential to contain sensitive or private information, including that which may not obviously appear to be such. For that reason, all recordings and notes have been kept secure and private. Disclosures of personal communications and information within this thesis have been done in accordance with the ethical guidelines outlined below and with informed consent of my research participants.

In my case, I am dealing with political matters that are potentially sensitive for individuals, their careers, and their institutions. The characterizations that I put forward and the arguments that I make will represent various actors in ways that reflect my perceptions. My evaluations will not necessarily correspond perfectly to the way in which an individual might represent matters him- or herself (even if that were my objective). While I intend to protect my research participants by not

divulging information that is sensitive or has the potential to put them at risk, I cannot always be certain I will know what material could cause harm. For that reason, I decided against covert data collection and provided full disclosure of my research activities – specifically, I explained the general themes and intent of my research and obtained consent to use interview data from every subject involved. A sample of the consent form that was used is included in Appendix 3. The form detailed my activities, explained their rights, and requested their involvement. It also explained that, by agreeing to participate, they were allowing me to divulge the material discussed, but that they retained the right to withdraw at anytime. The form also asked participants to indicate whether or not they agreed to participate, whether or not they would like to have their identity concealed, and whether or not they required review of the material.

With regard to observations, it may not always have been clear to subjects when I was in "researcher mode". For this reason, permission to utilize observations was sought at a later time. In situations where observations were made in public settings and requests for permission could not feasibly be made, anonymity is maintained.

CHAPTER IV

A History of Costa Rican Conservation and the Emergence of Payments for Ecosystem Services

Costa Rica is now world famous for environmental conservation. It has become a pioneer in conservation policy and a testing ground for experimental new concepts. Indeed, “ecosystem services” became the foundation of Costa Rican forest policy in 1996, a full year before Daily's (1997) seminal framework and nearly a decade before the concept settled into the mainstream global policy arena with the Millennium Ecosystem Assessment (2005). The country's leading role in conservation is the product of a unique social, natural, political, and economic history, in which Costa Rica has not always featured as the greatest environmental steward. In the pages that follow, I will detail Costa Rica's conservation and development history, placing particular emphasis on its well-known and widely studied Payments for Environmental Services (PSA) scheme. The purpose is to provide context for a discussion of the current efforts to bring about neoliberal reform of the program.

In this chapter I detail the historical conditions that gave rise to the PSA program. I begin with the period prior to Costa Rica's ecological fame in which the country held a contradictory reputation for extensive environmental devastation. Then I present the emergent state-centered conservation of public lands and period of direct incentives for “responsible management” of forests on private lands. Following that, I explain the various internal and external pressures for change in private forestry, and I provide an account of Costa Rica's new economically-oriented approach to conservation-development. In the final sections I turn to the PSA specifically, to

Figure 4.1
Public service announcement reminds Costa Ricans what it takes to maintain their reputation for progressive environmentalism: "Think of an idea to improve our world and put it into practice!"

explain the vision that various factions had for the program and to summarize how things have played out on the ground in early practice. I explain that the vision laid down by program architects was solidly in line with neoliberal ideals, but that early PSA practice has failed to realize many of their objectives. This will set the stage for Part II of this thesis, in which I address the onset of neoliberalization and explore the social and ecological consequences of it.

Before Ecological Fame

The international reputation that Costa Rica enjoys with regard to environmental conservation today is rather remarkable and fairly surprising given the country's historical record. Somewhat paradoxically, at the same time that Costa Rica was

creating one of the most extensive systems of parks and protected areas in the world, it was also experiencing one of the highest rates of deforestation domestically (Evans 1999). Until recently, Costa Rica's economic system was heavily based on agricultural production, and land use policies were designed to encourage those activities. Export-oriented production of coffee, bananas, beef, timber, palm oil, and other crops drove the conversion of forest into plantations, pastures, and farmlands. And Costa Rican forests rapidly declined. In just 40 years, forest cover went from 90% to an alarming 25% (Evans 1999, 40), with barely any old-growth forest remaining on private lands.

Costa Rica's "first wave of deforestation" began with coffee production, shortly after gaining independence from Spain in 1821 (Carriere 1991). The country had been one of the poorest Spanish colonies, and the political focus during this era was on emerging from colonial poverty through agricultural development (Wilson 1998). The cooler climates of the mountainous Central Valley provided ideal conditions for coffee production, and settlers eagerly removed forest to expand production. At this stage, however, the impact remained quite limited, as population was low, about 60,000 in the 1820s, and concentrated, occupying only two percent of the landmass (Wilson 1998, 25). Nevertheless, it was significant in terms of being the first time in Costa Rican history that the systematic conversion of forest was linked to economic growth and driven by external demand for goods (Evans 1999, 35).

Costa Rica's second major export-crop, bananas, was vastly more devastating to forests than coffee had been. The banana industry, which has been called the "accidental by-product of the government's attempts to facilitate the exportation of

coffee" (Wilson 1998, 26), grew out of a deal with U.S. railroad tycoon Minor C. Keith to build a freight line from the Central Valley to the port city of Limón in 1883. In exchange for construction of the railroad, Keith's company was given a truly enormous land grant – nearly 7 percent of the national landmass – on a 99 year lease. In order to defray the costs of building the railroad, Keith began to grow and export bananas through his Tropical Trading Company, predecessor to the infamous United Fruit Company (Wilson 1998). Development of the banana industry came at an extreme environmental cost, as it drove more widespread and rapid landscape conversion, particularly because the productive life of a banana field is generally about seven years (Evans 1999). Disease plagued monocultural banana production in Costa Rica, rendering soil infertile and driving the continual need to clear forest for new plantation land. In the late 1800s and for most of the 1900s, forest was viewed as a barrier to development, and management was based more on a concern for "a good return on … investment than in ecologically sensible agriculture" (Evans 1999, 36).

Each time disease struck the banana plantations, producers shifted their operations and fields were abandoned. Often plantation workers, most of whom had been imported from afar, were simply left behind (Wilson 1998). The popular reading of this is that these workers constituted a lasting threat to landscape ecology. As Evans puts it, "when the plantations were abandoned, … banana workers flocked to the countryside to settle, farm, and eke out a living in the forest" (1999, 37). While banana production is seen as having been a serious but temporary threat to the environment, *campesino* colonization is viewed as an equally serious but persistent threat. The rural poor "have been widely projected as the main culprits in [Costa

Rica's] rapid deforestation" (Vivanco 2003, 65). This image of *campesinos* as "destroyers of nature", however, is rather problematic. The idea that they were (or still are) at the root of environmental degradation overlooks the broader political circumstances in which economic policy has encouraged the expansion of export-oriented agricultural development, and it overlooks historical conditions in which possession of land was only legally recognized if it had been "improved" (i.e. cleared of forest and brought into production). The 1961 Law of Lands and Colonization, for example, went as far as to impose sanctions on landowners with uncultivated lands (Evans 1999, 42), impelling rural settlers to be conspicuous in their use of the landscape.

Despite the perception that individual peasants were a major factor in forest decline, big industry has been the primary force behind deforestation throughout Costa Rican history. The exponential growth of industrial fast-food in North America, for example, propelled demand for cheap Costa Rican beef to unprecedented levels and led to a third major wave of deforestation. Rapid conversion of forest (and old plantation land) to pastures quickly followed. In all, about one-third of the country's landmass came under cattle production by 1980 (Evans 1999, 39). Efforts were made to diversify agriculture during this period – with expanded palm oil, timber, sugar, and cacao production – but each of these only contributed to the decline of forests. The accelerated rate of deforestation in the latter half of the 20th century was cause for great alarm, as the effects on the landscape were drastic within a single lifetime (figure 4.2). For a small group of well-connected conservationists, these were the conditions that prompted urgent action.

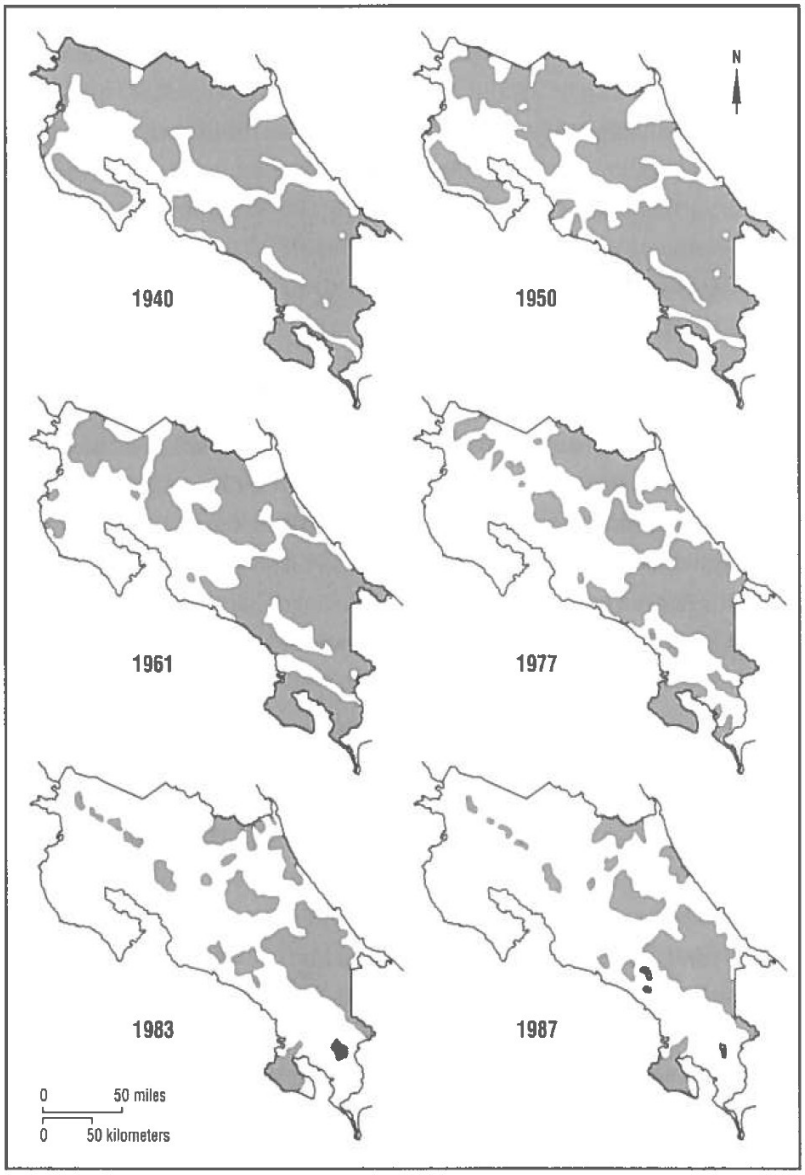


Figure 4.2
Costa Rican Forest Cover Over Time (Evans 1999, 40).

Emergent Conservation

The earliest efforts to protect the Costa Rican environment arguably began before colonial independence. As Evans notes, as early as 1775 the Spanish governor of Costa Rica took measures to discourage forest burning in order to slow the rate of deforestation and prevent soil sterility (1999, 35). After independence, decrees were also made to preserve forests around cities and in important watersheds, and hunting laws were put in place to protect wildlife (Evans 1999). Even on productive lands,

Evans claims that Costa Ricans had "enough ecological sense" to utilize lands that were sufficiently fertile and capable of sustaining agriculture (unlike the foreign banana interests that came later). While this leads Evans to suggest that "an incipient conservation awareness was already starting to emerge" in Costa Rica as early as the mid-19th century (1999, 35), it was not until environmental conditions reached crisis point in the mid-20th century that more significant actions were taken.

Costa Rica's transformation to ecological celebrity began small, with an elite class of well-connected conservationists. Against all odds, they re-directed the country's development trajectory and solidified its current environmental reputation. This conservationist class had grown out of important links to the scientific communities of North America, which had been established in large part due to Costa Rica's reputation for democratic rule and political stability.

After the 1948 civil war, the new constitution of Costa Rica included a broad array of provisions that limited executive power, divided the branches of government, guaranteed many social reforms, ensured personal liberties, and most famously, abolished the Costa Rican army (Booth 1998; Wilson 1998). The security forces that Costa Rica did retain operated with safeguards that limited the executive's ability to exercise coercive power – they lacked a central command structure and required the reappointment of unit heads every four years without the possibility of a second term (Evans 1999). Importantly, this has meant that the government has not been able to use security forces to "assert undue influence over civilian society" as has so often been the case elsewhere in Latin America (Evans 1999, 2).

The resulting peace and political stability played a significant role in creating the conditions for positive social development and the emergent conservationist class. In particular, education became a priority in national budgets that did not require maintenance of a standing military (Evans 1999). At the same time, political stability attracted many foreign researchers to the country (Honey 2004). One famed American scientist, Alexander Skutch, for example, explained that "the naturalist working in some remote spot was not likely to have his studies suddenly interrupted or his thin lines of communication cut by a violent upheaval, as has happened to many in Latin America" (1971, 8).

Costa Rica had actively recruited scholars to the country as far back as the mid-1800s to fill a need for university professors (Evans 1999), and higher education in the country benefited greatly from the connections formed with foreign academics. Many Costa Ricans became prominent figures themselves. One such figure was José Zeledón who was sent to study at the Smithsonian Institute in Washington, D.C. in the early 1900s. While there, Zeledón "established important connections with American scientists", opening the "floodgates … for U.S. researchers to start pouring into Costa Rica – a flow that never waned" (Evans 1999, 20). By 1914, "Costa Rica had become the center of scientific research in tropical America" (Evans 1999, 20).

Only a small segment of the Costa Rican population, however, was involved in this part of the country's history, since "field research was viewed by many as a pastime for the eccentric or the rich" (Evans 1999, 21). A disparity existed between those who were highly educated and those who labored in the fields. What was characterized as a "total indifference to environmental problems on the part of the

general public" (Boza quoted in Evans 1999, 79) is actually evidence that a gap was forming between the classes. On the one hand, there was a highly educated class of conservation-oriented intellectuals and, on the other, a class that remained closer to their humble *campesino* roots. Though they were an extreme minority, the new conservationist class derived the power to steer Costa Rican policies towards conservation by aligning themselves with influential and well-connected individuals.

Two of the most prominent figures in Costa Rica's emergent conservationist class during the 1970s were Mario Boza and Alvaro Ugalde, who played critical roles in the establishment of Costa Rica's national parks. Both were scholars in fields related to the environment, both had received training with the United States National Park Service, and both were well integrated with the Costa Rican political establishment. Boza and Ugalde, for example, had traveled with former President José Figueres and his family on an expedition to view a sea turtle conservation project in Tortuguero. Former First Lady Karen Olsen de Figueres, in particular, was "deeply interested in conservation issues" and the potential for Costa Rican national parks (Evans 1999, 74). Both José Figueres and his son, José María Figueres, later held the office of president – the elder being re-elected to a non-consecutive term (1970-1974) and the younger being elected in 1994 – ensuring strong political allies for parks development. Throughout the 1970s and 1980s, Boza and Ugalde, supported by the Figueres family, led the drive to protect the remaining vestiges of Costa Rica's once extensive forests. By the end of the period of rapid parks expansion, 25% of the Costa Rican landmass had come under some form of legal protection, constituting one of the most extensive, and now most famous, systems of protected areas in the entire world (Roberts and Thanos 2003).

Costa Rica's equally famous ecotourism industry, which led to a broadening of those with an interest in expanded conservation, is also a product of the country's scientific legacy and political stability. Academic tourism may have been one of the first forms of ecotourism that emerged. Evans notes that scientists "may not have started coming to Costa Rica … for fun or entertainment, but their dollars added to the foreign tourist trade and helped to launch a thriving academic tourism business" (1999, 219). Operations that were developed to accommodate foreign scientists soon found that they could be marketed to nature tourists (Evans 1999). Once the economic potential of Costa Rica's nascent tourism industry was understood by the political and business establishment, conservation became a strategy for economic development and, thus, gained support across the political spectrum. The country's positive reputation fed on itself. As international recognition of conservation successes grew, international praise was heaped on Costa Rica and its people, and a sense of environmental pride has, to an extent, become rooted in the national identity. Martha Honey, for example, contends that while "environmentalism was confined to a small cadre of scientists and national parks offices" in the early 1980s, "a decade later, ecotourism and environmental ethics had become part of Costa Rica's national consciousness" (1999, 132).

Despite this, however, much of the country remained quite distant to the ongoing environmental revolution. Ecotourism, and the economic benefits from it, were concentrated in particular hotspots – Monte Verde, Manuel Antonio, Jaco, Tamarindo, Arenal, Punta Uva – while much of the rest of the country continued with traditional forms of agricultural production. As the Parks Department raced to bring

the remaining vestiges of forest under official protection, Costa Rica was quickly running out of suitable land. Lands outside of the parks were largely degraded, and the displacement of existing communities was becoming more politically difficult. A fear emerged that the protected areas would become "ecological islands" separated by degraded wastelands where extractive industry reigned supreme. As Franz Tattenbach, an important figure in early Costa Rican conservation, explained, there was a "need to include the private sector forest owners [in conservation efforts], to go beyond the national park model that Costa Rica had been following" (Tattenbach, interview, 30 Jan 2012). Conservation on private lands, using buffer zones and "biological corridors", became the next priority for the conservation elite. To control environmental decline outside of the protected areas, the government first intervened in private forestry operations, primarily through the provision of incentives and direct payments for more responsible extraction.

Intervention and Incentives

As is the case with many initiatives in Costa Rica, the first effort to curb deforestation on private lands was made early relative to other parts of Latin America. In 1969 the country passed its first *Ley Forestal* (Forest Law No. 4465), which promoted plantation forestry and supported "reforestation" of commercially important timber species. While this was not aimed at "conservation" in the terms we understand today, it was an attempt to alleviate deforestation pressures by establishing a system of sustainable yield timber plantations. Incentives for these activities were provided by making the cost of establishing new plantations tax-deductible. This approach, however, was widely criticized as benefiting large scale operations. Since deductions were only relevant to corporations and individuals with

significant tax liability, the incentives were effectively unavailable to the poorest and smallest landowners (Bennett and Henninger 2008).

Further incentives for plantation forestry came with the Reforestation Act of 1977 (Law No. 6184), which made (relatively) low interest loans available from state banks for establishment of plantations (Bennett and Henninger 2008). In the same year, the government also abolished a longstanding tax on uncultivated lands (Brown and Bird 2011), which had been a throwback to an earlier period when forested land was understood as an obstacle to development. Throughout the 1980s and early 1990s, state intervention in forestry increased in response to the accelerating rate of deforestation. Policies continued to follow the subsidies model, which, with revisions to *Ley Forestal* in 1986 (Forest Law No. 7032), began to offer direct incentives in the form of "certificates" or transferable state bonds.

The *Certificado de Abono Forestal* (CAF or Forestry Payment Certificate) and the *Certificado de Abono Forestal Avanzado* (CAFA or Advanced Forestry Payment Certificate), were created as credits for landowners who invested in plantations. Instead of allowing plantation owners to deduct expenses from tax liabilities, the government began issuing these certificates as direct payments to subsidize operations. This time measures were taken to ensure that more than just large-scale industry and wealthy landowners could participate. Intended for poorer farmers who lacked capital, CAFAs paid out in advance of the timber harvest in order to cover the upfront cost of investment (Rojas and Aylward 2003).

The second *Ley Forestal*, however, became the subject of controversy due to the

constraints it placed on forestry operations on privately held lands (Watson et al. 1998). With law 7032, the government introduced strong controls over a landowner's ability to harvest trees on their property (de Camino et al. 2000). All cutting, henceforth, required a management plan from a registered forester and a municipal permit (de Camino et al. 2000). Eventually, in 1990, a case was brought before the Constitutional Chamber of the Supreme Court in a dispute over private property rights.[18] The Court annulled the law on the grounds that it had not passed with sufficient majority to allow restrictions on private land use.[19] The Legislative Assembly responded quickly by passing (with broad support) a third version of the law (Forest Law No. 7174). It was operationally very similar to the second, raising concerns that it too could be deemed unconstitutional. But the new law was seen primarily as a stopgap measure until a more comprehensively revised version could be passed (Evans 1999, 166-167).

Ostensibly a setback, the Supreme Court's reversal of Forest Law 7032 provided the impetus for action at a critically important time. As they were instituting the stopgap Forest Law 7174, the Legislative Assembly also established a Special Forestry Commission with the purpose of finding a new direction and long-term solution (Watson et al. 1998). This was taking place just as the concept of "ecosystem services" was starting to migrate out of academia and into the policy realm. The Convention on Biological Diversity (1992) was the first major forum in which the concept gained actionable support (Gómez-Baggethun and Ruiz Pérez 2011). Costa Rica seized on this experimental new concept and aimed to be the first to implement

18 Historical land tenure, ownership, and the meaning of "private property" in Costa Rica will be discussed in greater detail in chapter 7.

19 The law had passed one vote short of the two-thirds majority required to take such measures (Evans 1999, 166).

it. Indeed, it would become the foundation of new forest legislation in 1996. This example of Costa Rica's foresight and ambition on environmental matters is part of the reason it has earned the reputation it has for progressive environmentalism (in spite of a history of intense deforestation).

The dispute over the government's right to regulate environmental matters on private land spawned a debate that ultimately resulted in a fairly drastic measure to ensure the judiciary considers environmental factors in the future. In 1994 a constitutional amendment was passed guaranteeing the "right to a healthy and ecologically balanced environment" and authorizing the State to "guarantee, defend and preserve that right" (Constitution, Article 50, author's translation). While this does not directly resolve the issue of regulating forest management on private lands, it does require that the Supreme Court factor in environmental concerns in any future deliberations. Most of all, though, it signified just how far legislators were willing to go in asserting their authority to govern environmental practices.

In the meantime, the stopgap law stipulated a measure for encouraging the "sustainable management" (i.e. selective cutting) of "natural growth" forests. This led to the creation of a third forestry payment certificate, the *Certificado de Abono Forestal por el Manejo de Bosque* (CAFMA or Forestry Payment Certificate for Forest Management) (Camacho et al. 2000, 39, note 47). CAFMA worked much like the earlier certificates, but it targeted primary growth forests instead of plantations and sought to make sustainable management economically competitive with conventional clear-cutting methods. The trend in the forest sector throughout this period was clearly in the direction of responsible management; however, at a

fundamental level, these policies and incentives remained in support of resource extraction.

It was not until 1995 that a new certificate, the *Certificado para el Proteccion del Bosque* (CPB or Certificate of Forest Protection), was introduced and policy began to move away from timber production. With the CPB, for the first time, incentives were offered for forest conservation (Rojas and Aylward 2003). The move was stimulated in part by developments in the international arena like Agenda 21 and the Convention on Biological Diversity (Camacho et al. 2000, ii), but it signaled a change of course for Costa Rican forest management policy internally. It marked the beginning of a new era in Costa Rica, in which private forests could receive government support for conservation, not just "responsible" extraction.

The forestry certificates schemes as a whole, however, can be viewed in rather mixed terms from a historical perspective. While the schemes were far in advance of other Latin American countries (in terms of an effort to stem resource depletion and in terms of developing institutions to control forestry activities), they lagged behind Costa Rica's own efforts to protect forests on public lands. For years after the push to establish the national parks, government policy was still encouraging the treatment of private forests as agricultural stocks to be consumed, re-planted, and consumed again. While the intention of this approach was to alleviate pressure on primary growth forests by ensuring a reliable supply of timber, these policies were not directly advancing conservation. In fact, they were sometimes counter-productive. The CAF, CAFA, and CAFMA certificates are often blamed for creating "perverse incentives" that actually *encouraged* deforestation (Morell 1997). Many timber

companies had found it economically advantageous to clear existing “natural” forest and then apply for credits to establish monoculture plantations (Pagiola et al. 2002).

The way in which the government sought to support conservation on private lands during the 1980s and early 1990s was clearly troubled. It was based on an outdated mindset that understood agricultural production as the path to economic development and “conservation” as sustainable yield management. Forests, however, were already coming to be seen as a resource for tourism development and the source of many important “services”. At the same time, macroeconomic trends and international financial agreements were complicating the government's ability to maintain the forest subsidies. Both internally and externally, pressures were mounting for a shift in Costa Rican forest policy.

Internal and External Pressures for Change

Shifting social and economic priorities within Costa Rica demanded a revised strategy for forest management. Growing environmental awareness, increasing economic dependence on nature tourism, and an enhanced geopolitical stature derived from a reputation for environmentalism all factored into the need for a different approach. The transformation of Costa Rica into a destination for nature tourism re-centered the way in which many Costa Ricans viewed and valued the environment (Vivanco 2006). As livelihoods shifted away from agriculture, nature was decreasingly viewed as an impediment to development (Watson et al. 1998, 55). Additionally (recognizing that Costa Ricans are not solely motivated by economics) environmentalism diffused throughout the Costa Rican populace by way of educational campaigns, particularly those aimed at youth. A pride in their national

reputation for environmentalism emerged as the country became known for leadership in conservation action. Foreign visitors held Costa Rica's (almost mythic) environmentalism in reverence, reinforcing their pride and enhancing their desire to foster that reputation.

Changes took place at the government level as well. Politicians and administrators began to see conservation as an important political asset and the source of international influence. Recognition of Costa Rica's leadership on environmental issues gained it credibility and authority in international forums such as the Earth Summits in Rio and Johannesburg and the various international climate talks: a significant achievement for a small developing nation that would otherwise be inconsequential on the world stage. The fact that the country greatly derives its influence from continued environmental action led to broad cross-party support for environmental policy that has spanned several changes of administration. In order to maintain its reputation (and the political, economic, and social benefits that come with it), the Costa Rican government has engaged in a constant search for innovative and experimental new conservation strategies (e.g. payments for ecosystem services, bio-prospecting, carbon markets). With regard to forest management policy, it meant a need to revise the “status quo” extractive policies.

At the same time, external pressure was mounting to restructure Costa Rica's approach to economic development, including its support for forest management activities. Like much of Latin America, Costa Rica experienced chronic debt crises throughout the 1980s and 1990s and came under pressure by international financial institutions (IFIs) to eliminate subsidies and liberalize economic activities. These

measures were highly controversial throughout Latin America and are the source of persistent animosity, distrust of capitalism, and accusations of foreign meddling in national affairs. In Costa Rica, the International Monetary Fund seized the opportunity in these crises to deliver loan readjustment conditional upon the elimination of subsidies (Porras 2010), and the World Bank negotiated a series of structural adjustment plans (Rojas and Aylward 2003) that would liberalize trade and dismantle welfare activities.

Support for conservation internally, however, meant that forest management could not simply be abandoned.[20] The Special Forestry Commission that was established by the Legislative Assembly in 1990 was faced with this tension when tasked to find a way forward for national forest policy. The situation came to a head when, towards the end of 1995, the third structural adjustment plan targeted the forestry certificate schemes (CAF, CAFA, CAFMA, and CPB) for elimination (de Camino et al. 2000, 17). Facing the impending removal of this support, the environmental lobby was forced to revise its tactics and accept an alternative approach to financing conservation incentives (Porras and Neves 2006). The internal and external demands for change culminated in a third revision of forestry legislation.

New Directions

The first measure to reform Costa Rican forest policy was brought before the Legislative Assembly by *Diputado* Otton Solis in 1995. The *Cortar Unicamente lo Producido Ahora* Bill (CULPA or "Cut Only What is Produced Now" Bill) was

20 Here it is possible to observe how political circumstances work to constrain the institution of purely neoliberal frameworks. Rather than resulting in a pure idealized neoliberal*ism*, the result is a partial and incomplete neoliberal*ization*.

proposed as a drastic measure to end timber harvesting in "natural" forests (Watson et al. 1998). Among several things, the Bill proposed that all Costa Rican timber should be produced on plantations or in agroforestry systems, that an outright ban on logging in "natural" forests be imposed, that the existing certificates scheme responsible for the perverse incentives be eliminated, and that a new "CULPA Certificate" be offered to smallholders (of no more than 25 hectares) who protect "natural" forest on their land (Watson et al. 1998). The Bill represented a clear commitment to strong state support of conservation and smallholder interests, and was flagrantly antagonistic to industry, large landowners, and the international financial institutions that were demanding liberalization. While such a controversial approach was unlikely to succeed given the power of entrenched interests, it may have set the terms of debate for the bill that would follow. Watson et al., for example, suggest that CULPA was deliberately excessive in its aims "to allow somewhat less extreme measures to be more easily approved subsequently" (Watson et al. 1998, 47). Indeed, the law that ultimately passed included some of CULPA's positions "whilst appearing relatively uncontroversial" (Wastson et al. 1998, 47) – namely, it instated a ban on land use conversion, even though industry was able to maintain their ability to conduct "sustainable forestry management" (SFM) in primary-growth forests where it had already been taking place.

The bill that eventually did pass, in 1996, is the current incarnation of *Ley Forestal* (Forest Law No. 7575), which made the most sweeping changes to Costa Rican forest policy since it was first introduced. Though quite different to CULPA, it represented a dramatic reorientation of Costa Rican forestry and the way government supports and regulates private forest conservation. As Franz Tattenbach describes it:

> What we had [in 1996] was a significant paradigm shift. The idea of fiscal incentives for a fledgling reforestation [i.e. plantation forestry] industry was replaced by a very different concept: the idea that forests provide environmental services (quoted in FONAFIFO 2005, 19).

Most immediately, institution of this law meant that the focus of forest policy shifted from extraction to conservation (though, as I indicated, minor support for plantation forestry and SFM remains). It also meant, however, a re-framing of how incentives for conservation are delivered (Bennett and Henninger 2008). As required by the World Bank's structural adjustment plan, the new law eliminated all existing certificates (Watson et al. 1998, 74), so the government would (theoretically) no longer directly subsidize any forest management activities. Instead, the law made provisions for a system that would encourage particular land uses through establishment of financial links between individual users and producers of ecosystem services; it instated the national Payments for Environmental Services (PSA) scheme.

As identified by Blackman and Woodward, a "major motive for creating the PSA program was to recast reforestation and conservation subsidies as payments for environmental services" (2010, 1628). Support for conservation was not, any longer, supposed to be a liability on the government's balance sheets. Instead, conservation was to be funded by the sale of ecosystems services to service users. This, of course, stands in stark contrast to the tack taken by CULPA and represents an important struggle between ideologies. On the one hand, CULPA aimed to extend traditional government-centered financing of conservation, and on the other, the PSA aimed to reduce direct government involvement and rely on economics to finance the program.

Neoliberal Vision

When it was first rolled-out, Costa Rica's "payments" scheme came with grand neoliberal ambitions. Sage and Sánchez (2002), for example, envisioned radical possibilities that would realize marketization and facilitate state withdrawal. In a short paper, the two employees[21] at FONAFIFO (the Costa Rican agency implementing the PSA) laid out the program's potential. Beginning with the initial form of the new program, they re-conceptualized the PSA not as a subsidy, but rather as government "purchases" of "service rights" (figure 4.3).

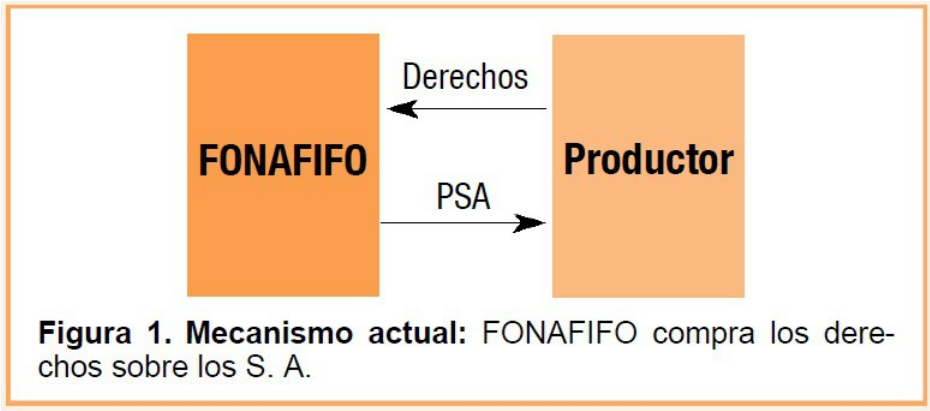


Figure 4.3. Reproduced from Sage and Sánchez (2002).

They then envisioned the program's evolution through several iterations that would first link producers with users in a government-sustained quasi-market (figure 4.4), then create a tradeable "certificate" of environmental services (essentially a packaged commodity representing an abstract ecosystem service) (figure 4.5), then facilitate the formation of an investment market for the exchange of those certificates (figure 4.6), and finally culminate in the withdrawal of government from the program and in idealized direct financial transactions between users and producers taking place in

21 Sánchez is listed as "Environmental Services Section Chief", and Sage is listed as "Consultant in charge of the FONAFIFO project".

open markets (figure 4.7; Sage and Sánchez 2002, 73).

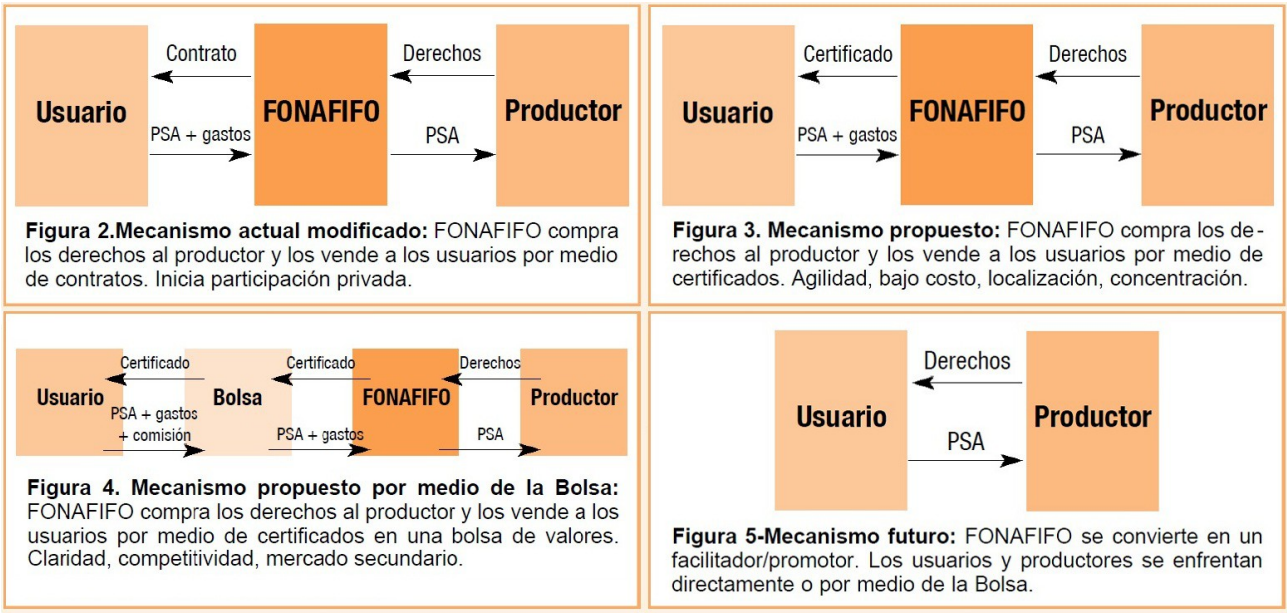


Figure 4.4-4.7. Reproduced from Sage and Sánchez (2002).

The vision laid out by the two is somewhat idealistic, offering almost no commentary on how this vision was to be achieved or how, for instance, direct agreements between users and producers could be sustained without some sort of coordinating body. Although, as will be discussed below, several of their ideas do indeed come to fruition (e.g. the negotiation of contracts with private users of services and the creation of tradeable CSAs).[22] What their paper illustrates is that the concept of PES was being understood in neoliberal terms by (at least some of) those working to carry it out. It was *not* being treated as a mere change of name for direct subsidization (Sage and Sánchez 2002). Even though the early stages of the PSA resembled previous modes of supporting conservation, a fundamental change in the ideology

22 CSA stands for *Certificado de Servicios Ambientales*, or Certificate of Environmental Services. They should not be confused with the earlier system of certificates, as they represent a commodified "service" that can be sold or traded. The earlier subsidy certificates represented a payment from government and held nominal value.

underlying the practice had taken place. The initial system for providing "payments" to "service providers", then, could be understood as "an intermediary stage in the formation of true markets for environmental services" (Sierra and Russman 2006, 133).

Early commentaries from outside the implementing agency were also interpreting these changes in decidedly neoliberal terms. Fletcher and Breitling (2012) indicate that such a vision was presented by the German Agency for Technical Cooperation (GTZ), a development agency contracted by the Costa Rican government to assess the PSA soon after its passage. Heindrichs, writing for the GTZ, understood the establishment of PES as an explicit move "away from deficit-plagued, subsidized operations that are only able to survive with the aid of state 'alms' and toward a form of profitable, competitive land use based on sound business principles" (1997, 2). For Heindrichs, the PSA was not, as Rojas and Aylward (2003) suggest, a cover for continuing subsidies in the face of pressure to remove them, but rather a fundamental transition to market-based conservation. The basis of this understanding is the perception that the PSA succeeded in "decentralization of the administration, participation of the private sector and the general public, reduction of public subsidies, and introduction of the 'consumer pays' principle" (Heindrichs 1997, 35).

Fundamentally, the new program altered the rationale for support of forest management. What had been *aid* for prescribed land uses was re-conceptualized as *compensation* for service provision. Interpretation shifted to cast earlier forms of conservation support as assistance for practices that were not economically viable, while new approaches are framed as remuneration for astute asset management. This

meant landowners that were supported by these new conservation regimes could be regarded as "deserving" resource managers at the same time that previous approaches were being recast as welfare dependency. The shift also meant, however, that such support could only be justified if it made rational economic sense, a situation that has yet to reveal its full implications. It is clear that the very core of how conservation support is delivered in Costa Rica shifted with the passage of the 1996 Forest Law, and that the underlying ideology of the new approach is largely rooted in a neoliberal worldview. But while the *idea* of PES may represent a new direction for socio-environmental organization, the practice of it has proven to be far more resistant to such changes.

Actual Practice

Despite the interpretation by analysts such as Heindrichs (1997), and despite the vision laid out by institutional insiders like Sage and Sánchez (2002), the *practice* of PES in Costa Rica has been anything but true to its vision. Fletcher and Breitling, for example, have identified a "significant gap between vision and execution" in several aspects of Costa Rica's implementation (2012, 408). Indeed, as we would expect, many of the actual practices of making payments for environmental services in Costa Rica do not map neatly onto a neoliberal model.

First, there was a level of continuity from the previous management regime to the current one, in that the new regime initially supported all the same land-use practices (i.e. conservation, "reforestation", sustainable management)[23] and carried over the

23 Conservation was previously supported by the CPB. "Reforestation" (or plantation forestry) was previously supported by the CAF and CAFAs. Sustainable forest management (i.e. selective cutting) was previously supported by CAFMA.

same payment levels from the certificates scheme (Pagiola 2008). Moreover, several aspects actually extended previous approaches to conservation, particularly with regard to program financing. Initially, the PSA was funded almost entirely by a new tax on fossil fuels (Sánchez-Azofeifa et al. 2007), *not* user fees or revenues from ecosystem service sales. As Fletcher and Breitling (2012) point out, the tax was intended to be a temporary measure that would be replaced by revenue generated on international carbon markets, but when those markets failed to materialize, the tax remained. Even as the program has progressed, the proportion of financing that could be regarded as market-based remains wholly insignificant, amounting to 0.5% since the start of payments (FONAFIFO 2011c).[24]

In fact, the involvement of markets has failed to materialize on several fronts, which has resulted in an undifferentiated payment schedule. Instead of being determined by demand on an open market, payment levels are set at fixed-rates by presidential decree (Pagiola 2008). This means that a single payment level exists for each contract modality so that each PSA participant receives the same per-hectare rate for equivalent management. Payments do not, therefore, reflect the variability of opportunity costs or the market value of productive land. This has led to claims that the PSA is "overpaying" in some cases and offering inadequate incentives in others (World Bank 2007). Despite criticism of this "inefficiency" (Wünscher et al. 2008; World Bank 2007), the political will to implement market-oriented valuation techniques such as reverse auctions (Chomitz et al. 1999), contingent valuation (Whittington and Pagiola 2011), or other mechanisms for price differentiation (Sills

24 This was calculated using the sum of revenues generated from contracts with Florida Ice and Farm, various hydroelectric companies, and CSA sales and the total FONAFIFO budget for PSAs: 100 * ₡ 507,539,487 / ₡ 99,797,775,525.

et al. 2005) has been insufficient among government actors.

A consequence of fixed-rate payments is that supply and demand do not come to a "natural" balance. For the PSA, this has meant that demand for participation routinely outstrips the availability of financing (Pagiola et al. 2005). As a result, a prioritization scheme and applicant selection process has been required. This has meant further government involvement and distancing from the idealized vision. Operation guidelines (also set through presidential decree) have consistently identified priority areas based on ecological and social criteria. Priority "biological corridors" have been identified through a series of ecological studies, and high poverty zones have been targeted through use of the Social Development Index (Zhang and Pagiola 2011). These measures indicate that the Costa Rican government (broadly speaking) is concerned with pursuing a particular socio-ecological vision over unrestrained market-rule.[25]

The Costa Rican system is further distanced from the market model by the way in which the actual payments are carried out. Instead of representing direct purchases of services, the PSA operates by providing incentives for particular management practices. In other words, there is no direct correspondence between the payments made and services delivered. For example, if the objective is to reduce sedimentation caused by run-off, then a management plan may be drawn up that stipulates forest protection or regeneration on relevant lands. It is largely assumed that these practices

25 While these priority areas appear to be the product of state-level planning intended to promote a particular socio-ecological vision, further investigation is warranted to determine if the principles of "economic efficiency" are a factor in their formation. If, for example, biological corridors are formed with the intention of directing scarce resources to areas that provide greater services, rather than areas of particular biological importance, this could actually be an example of emergent neoliberalization.

will generate the desired ecosystem services, as no measurements are taken to determine the quantity or quality of the services delivered (Daniels et al. 2010).[26] Without such information, it can hardly be said that a discrete "service" has been purchased. And since the incentives that are provided (most often) do not come from willing buyers, it is inaccurate to claim that the program represents direct transactions between users and providers. This disconnect between payments made and services delivered results in a system that is conceptually quite different from the idealized form, wherein actors exchange services in mutual self-interest to achieve economically optimal outcomes.

Furthermore, the "nature" of nature itself renders ecosystems uncooperative with the concept of selling their services. In the idealized model, a service (e.g. carbon sequestration) can be bought and sold as a discrete commodity in an open market. However, in practice, such a service cannot be separated from the various other ecosystem functions – a forest simultaneously provides carbon sequestration, water filtration, flow control, biodiversity, and many other services. Conceptually, the "de-bundling" of services may be possible (Wunder 2005), but practically speaking it does not represent "a realistic understanding of how ecosystems and their processes operate" (Kosoy and Cobera 2010, 1232). Reflecting this, Costa Rica's PSA pays for particular land management practices, rather than delivery of discrete services, more closely approximating the concept of bundling than the establishment of service markets. Stefano Pagiola, an analyst at the World Bank, for example, complains that even in cases where a direct agreement is made with a buyer of a service, the PSA

26 The language used here should not be taken to imply doubt that such land management practices do, indeed, deliver ecosystem services. Rather, it is being used to elucidate the disconnect between payments made and services delivered and problematize the assumption that PSA represents direct transactions between service users and providers.

generally charges the user for "*all* conservation payments in the area of interest" (2008, 716, emphasis original), meaning that a buyer of hydrological services is also paying for biodiversity conservation, carbon sequestration, and all the others. In other words, the PSA forces buyers to purchase bundles of services and, effectively, redistributes financial resources between the various services that ecosystems provide. This is in stark contrast, of course, to a strict model that would install markets, encourage differentiated pricing, and require each service to generate its own financing.

The strictest government regulation that accompanied the development of the PSA, and the one that most directly conflicts with liberal conceptions of governance, is the outright ban on land-use conversion. As Fletching and Breitling point out, this regulation makes the new forest law "something of a paradox" that simultaneously promotes neoliberalization and state intervention (2012, 407). When the law was passed, it was done in the context of the existing perverse incentives described above, which encouraged the removal of primary-growth growth forest for the purpose of accessing reforestation funds (Watson et al. 1998; Morell 1997). So along with the measures to reform the conservation incentive scheme came provisions that restricted industry's ability (and an owner's right) to convert forested land to other uses – it became illegal to cut "natural" forest for the purposes of harvesting timber, producing agricultural or pastoral lands, or bringing about any other form of development.[27] It effectively extends state (and restricts private) control of resources. As a result, opposition to the new law was (at least initially) quite strong by some environmental

27 A mechanism for "sustainable forest management" remained in place until 2003, wherein selective cutting was permitted under strict management plans (World Bank 2007).

economists. For example, Bruce Aylward noted that the measure "effectively expropriates land use rights on forested terrain" and is "both ecologically and economically flawed" (quoted in Watson et al. 1998). This ban on land-use conversion shows that, in certain ways, Costa Rica's implementation of PES is strongly contradictory to fundamental features of neoliberalism.

Clearly, there exists a disconnect between the PSA concept and actual practice, as the new program bears great resemblance to the one it replaced. Though the PSA represents a fundamentally new way of carrying out conservation activities, the endurance of overtly state-centered practices render it almost unidentifiable as neoliberal against the idealized model. Understandably, this has led some (eg. Rojas and Aylward 2003; Watson et al. 1998) to characterize the PSA as little more than a continuation of older subsidy-based policies. However, the work of critical scholars is emphatic about the tendency of states to expand, in their efforts to enact and sustain neoliberal policies (Peck 2010; Peck 2004; Larner and Craig 2005). Thus, it is possible that the shift in ideology embodied by the PSA can represent the onset of the neoliberalization process, despite the many overtly non-neoliberal practices that have endured. As recognized by von Platen, the "economic implications of the change" to conservation policy are such that "there is indeed more to it than a simple change of name" (1999, 23).

Encroaching Neoliberalization

While Fletcher and Breitling rightly cast doubt on the "neoliberalness" of Costa Rica's PSA, their conclusion – that the program "could equally be described as a subsidy in disguise" (2012, 408) – does not adequately appreciate the unfinished and

ever-adapting nature of the neoliberalization process. As I laid out in Chapter 2, there is no point at which the process of neoliberalization is complete. When neoliberalism exists, it is always to varying degrees according to the success of its promotion, its confluence with existing regimes, and the resistance mounted against it. It can even exist in cases that deviate substantially from the idealized conception. It is a mistake, therefore, to conclude that the PSA has no neoliberal characteristics simply because it lacks certain "ideal" elements (e.g. markets) or includes other antithetical ones (e.g. government involvement).

Looking Back

As I set out above, Costa Rica's transition to the existing regime of natural resource management was long and contradictory. The environmental reputation that the country holds today stands in stark contrast to its historical record. Long before conservation became a top national priority, and long before neoliberal ideology emerged as a driving force in political and economic organization, Costa Rica underwent successive waves of deforestation that rivaled the world's most rapid rates of ecological decline. Driven first by coffee then banana and beef production, the majority of the country's forest cover was consumed by an export-heavy agricultural industry. With each successive development, the rate of deforestation accelerated and the urgency of the environmental situation increased.

The response to the alarming state of Costa Rican forests came rapidly and was equally as exceptional as the decline had been. Throughout the 1970s and 1980s, a small group of well-connected conservationists succeeded in creating one of the most extensive systems of parks and protected areas worldwide. They drew on

international scientific and political alliances to place conservation at the forefront of the domestic policy agenda and, thereby, solidified Costa Rica's reputation for progressive environmentalism.

Despite their successes, however, lands outside of the parks continued to decline, giving rise to concerns that protected areas would become “ecological islands”. Beginning in the 1980s and increasing through the 1990s, the focus of Costa Rican conservation shifted to forests on private land, where buffer zones and biological corridors were developed to bolster the country's isolated parks. At first, strong government support in the form of tax credits, subsidies, and direct payments was offered to private timber producers to alleviate pressure on remaining “natural” forests. Gradually, these supports began to be oriented towards conservation rather than “responsible” extraction. By the time this occurred, however, the government was under heavy pressure from international financial institutions to change its interventionist policies. Ultimately, these pressures resulted in the development of the PSA, which was intended to replace direct government subsidization of private forest conservation with a self-financed system in which “ecosystem services” would be sold to private buyers.

As I explained, the vision articulated for the PSA came with grand neoliberal ambitions. The program's architects laid out a series of stages that first recast the scheme not as a subsidy, but rather as government purchases of service rights, which could then be sold to private service users. They further envisioned the development of abstracted service-commodity certificates and mechanisms for the circulation of those commodities in markets. The final stage of this plan was ultimately the

complete withdrawal of government involvement.

While elements of the vision (such as the *Certificado de Servicios Ambientales* and the sale of services to private buyers) have indeed been realized, the program as a whole does not map neatly onto the neoliberal model – market financing remains insignificant, the government's role has expanded not contracted, and the scheme was accompanied by strict regulation. Even though early practice of the PSA does not perfectly (or even closely) correspond to idealized neoliberalism, the program has a definite trajectory towards neoliberal*ization*. It is in this way that the case of PSA in Costa Rica links up to the conceptual elements of this thesis.

Looking Forward

Despite the characterization of the program as a continuation of older conservation subsidies, the re-orientation of policy embodied by the PSA points to the possibility of a neoliberal future. This thesis is an exploration of the efforts being made to realize that possibility. In the following chapters, I present empirical evidence of how this process is unfolding in actual practice. Specifically, I investigate the tactics being deployed by the World Bank and economically-oriented government actors to neoliberalize Costa Rica's new approach to conservation. The purpose is twofold: i) to demonstrate how the neoliberalization process is applied in partial and incomplete ways, and ii) to show how, despite this, the effect is still uneven development and inequitable distribution.

As I explained in Chapter 2, the reason for doing this goes beyond simply exemplifying neoliberalism-in-action to converse with the broader literature and

place my conceptual tools in a new light. I wish to show how, by directing the critical gaze on pressing justice considerations, it is possible to identify the crucial junctures at which neoliberal policies push through ostensibly non-neoliberal practices. This constitutes a different usage of the neoliberalism and neoliberalization concepts to much of the other literature, which has emphasized the ways that PES *deviates* from neoliberal doctrine. Rather than emphasize the ways in which neoliberalization has failed to influence conservation policy, my handling of the concepts places attention on the ways it has taken root despite all of its apparent contradictions.

As I have articulated already, there is an important difference between neoliberal*ism* and neoliberal*ization*. The concept of neoliberalism is an abstraction that never actually exists in a pure idealized form. If such an idealized model is used to assess the "neoliberalness" of a project, the conclusion will always be the same: it does not correspond perfectly and, therefore, it is not actually neoliberal. A consequence of this is that important instances where neoliberal policies have begun to enter practice are likely to be overlooked. In order to discern the effects of encroaching neoliberalization, it is essential to adopt a conceptualization that frames neoliberalism as a perpetually unfinished project. This can be found in the concept of neoliberal*ization*, which understands neoliberalism not as a monolithic force that displaces previous modes of economic governance, but rather as a process that is incomplete and ever-adapting (Peck and Tickell 2002).

Understood from the perspective that there is no finished product, neoliberalism can exist even in cases that deviate substantially from the idealized conception. When it

is present, it is always to varying degrees according to the success of its promotion, its confluence with existing regimes, and the resistance mounted against it. That is why, in the case of Costa Rica's PSA, no matter how misaligned actual practice is with idealized neoliberalism, there is still the possibility of encroaching neoliberalization. It is important, therefore, to uncover and assess even the most subtle instances of neoliberal influence, in order to understand the serious consequences that can often still exist. Bearing this conceptualization in mind, it is possible to identify several areas where the process has already begun to take hold.

Evidence of Neoliberalization

Notwithstanding the important challenges to its characterization as a "paradigmatically neoliberal 'market-based' conservation mechanism" (Fletcher and Breitling, 2012, 402), the PSA is being neoliberalized in (at least) three important ways: through World Bank and FONAFIFO efforts to recast program financing as user-fees; through the efforts of market-oriented officials within the Ministry of Environment to introduce competitive and decentralized forest management; and through legal requirements that alter property relations between PSA participants and their surrounding communities. These three cases of neoliberalization comprise the three empirical chapters of this thesis. They emerged from data analysis and were selected because of their significance to recent changes in PSA practice and Costa Rican forestry more generally. The first represents the primary outcome of nearly a decade of World Bank influence over the program. The second concerns a foundational shift in administrative organization. And the third corresponds to a complete inversion of the historical valence of power between property owners and the landless. Each is introduced briefly below.

First, a trend towards neoliberal financing mechanisms is evident in the various revenue streams that sustain the PSA program, despite the fact that market financing has largely failed to develop. Specifically, this shift is embodied in the differences between the fuel tax and water tariff. The fuel tax was established under the same law that initially instituted the PSA (*Ley Forestal* No. 7575) and levies a charge on gasoline sales to finance PSA activities. The water tariff, on the other hand, was developed later, in 2006, as the Ministry of Environment (MINAE)[28] sought to expand the program. It generates PSA financing from water concession holders. The difference between the two may seem trivial – both are state-mandated forfeitures of private capital and, indeed, have been characterized as being cut from the same cloth (Fletcher and Breitling 2012). However, they are conceptually quite different. Firstly, the fuel tax allows collection of revenues for use in making payments for any/all of the services identified under the program, and it allows for the prioritization of highly important biological areas as well as regions with low social development. In other words, it is redistributive. This is, of course, the nature of a tax; revenues are collected and then redistributed to achieve particular objectives. The water tariff, on the other hand, operates much more like a user-fee.[29] Though it is still non-voluntary, revenues are collected from holders of water concessions and transferred to the PSA for use *within the watershed in which the revenues were generated* (Decree 32868-MINAE, Chapter IV, Article 14).[30] This stipulation on how

28 The full name of the agency that established the water tariff is the Ministry of Environment and Energy, abbreviated "MINAE". It has since become the Ministry of Environment, Energy, and Telecommunications, or "MINAET".

29 The tariff is an attempt to approximate the concept of user fees. While it is, perhaps, an imperfect attempt (in that it is still non-voluntary), the World Bank appears to consider the tariff as progress towards the ultimate objective of direct user/provider transactions (World Bank 2006, 12).

30 The decree states that tariff revenues are to be used to finance payments on "*terrenos privados dentro de la cuenca donde se genere el servicio ambiental de protección del agua y se ubiquen en zonas de importancia para la sostenibilidad comprobada del régimen hídrico*", or "private lands

tariff revenues may be used institutes the logic espoused by neoliberal technocrats that believe nobody should be obliged to pay for services unless they are deriving direct personal benefit. There are obviously important social and ecological implications to this anti-redistributive approach to PSA financing. Namely, the tariff is unable to finance conservation in areas of high biological importance if they fall outside of watersheds with concession holders and it cannot prioritize impoverished areas if no concession-holding industry is located there. The consequence of this, I will elaborate in Chapter 5, is geographically uneven patterns of conservation-development.

Second, dramatic restructuring of the forestry industry has altered both the conduct of forestry work and landowner participation in the PSA. This re-organization constitutes a highly political shift in the scale at which the tensions between competition and cooperation are mediated. Specifically, the decentralization and privatization of labor has encouraged competition between foresters, and the individualization of participation has undermined cooperation among landowners. Much of this can be traced to institution of the *regente* system, which replaced the General Forestry Directorate, a government office, with a network of individual private foresters, or *regentes*.[31] These *regentes* – the only agents licensed to prepare forest management plans – play a critical role in the program. The idea behind the privatization of the profession was that it would promote competition and result in lower fees. Met with measured "success", this competitive system has in fact seen

within the watershed that generates the environmental service of water protection and that are located in zones of proven importance for the sustainability of the water regime".

31 *Regentes forestales*, literally "forestry regents", are professional forestry engineers that are responsible for the on-the-ground implementation of most aspects of forest management in Costa Rica.

the decline of the cost of contract preparation (Valenciano, pers. comm., 7 Feb 2012; Zuñiga, pers. comm., 30 Jan 2012). As I will show in Chapter 6, however, not everybody benefits from this competition equally. In fact, the result has primarily been lower per-hectare costs for large landowners, not across-the-board lower rates for all participants. Further to this, I will also show in Chapter 6, how the competitive system undermines the coherence of collective participation. FONAFIFO developed a form of cooperation through group contracting early in the PSA as a way to level transaction costs and make it no more expensive for small landowners to participate than it is for large ones. It was developed in direct recognition of the high fixed costs of contract preparation and the comparative disadvantage for small landowners (Pagiola et al. 2005). The idea was that landowners could pool their resources under a single contract and, thus, reduce the per-hectare rate for all involved. The mechanism, however, met with several administrative problems, including how to manage instances of individual non-compliance and ownership change within the groups. In response, FOFNAFIFO revised the mechanism to culminate in individual contracts (Pagiola 2008). This individualization of participation shifted the scale at which landowners are able to cooperate, further compounding the problem of large landowner advantage and substantially diminishing access for the poor. As the balance of participation shifts from groups to individuals and corporations, an increasing share of PSA benefits is being captured by larger, wealthier (and often foreign) landowners (Porras 2010). It is a troubling prospect that I will demonstrate is directly correlated with the turn towards neoliberal policies.

The third juncture at which I have observed the PSA's neoliberalization is presented

in Chapter 7 and concerns the effect of the program on property relations, specifically with regard to the expansion of exclusionary land management practices. Although Costa Rica has a long tradition of (ostensibly) private property ownership (Chomitz et al. 1999), exclusive access has not historically been the norm. While lands "under conspicuous use" are usually respected as being the property of the individual that labored to bring them into production (Evans 1999, 42), other marginal lands have been treated informally with broad usufruct access. Property boundaries in rural Costa Rica have historically been far more fluid, allowing those who lacked legal title or possession of land to access many important resources. However, with introduction of the PSA, these management practices are changing dramatically. Participants in the PSA are obligated to manage their lands in ways that contrast sharply with the practices that have long existed. This includes the obvious transition from extraction-oriented management to conservation-oriented management, but it also includes the rise of exclusionary practices that re-define many rural social relations. Participation in the PSA requires, for example, that landowners monitor and report extraction violations, transforming neighbors into forest guards and patrollers of their exclusive domains. Whereas "unused" lands have historically allowed broad access to the wider community, management under the PSA consolidates access under the control of the legal owner. And, thus, the benefits from this form of land management are accumulated by a narrower segment of the population, having particularly harmful consequences for the landless.

Each of these three cases serves to illustrate the (sometimes subtle) ways in which Costa Rica's PSA is being neoliberalized. The intention is to demonstrate that, even though the program may have an imperfect correspondence to the idealized model of

neoliberalism, it is still possible that neoliberal policies are starting to emerge. And, importantly, that they can still have detrimental social and ecological consequences. In the chapters that follow, I develop my critique of each of these neoliberalizations further. In doing so, I provide concrete evidence of uneven accumulation and reveal the distributional implications of carrying out conservation within the frameworks of neoliberal capitalism. In each case, I argue that neoliberalization leads to undesirable and unjust social and ecological outcomes. In the conclusion, I return to some of the conceptual aspects in order to explain the ways that my handling of the empirical material talks back to the theoretical conceptions employed across the broader literature.

CHAPTER V

Neoliberalization of PSA Financing

In the year 2000, FONAFIFO began a partnership with the World Bank that would transform the face of Costa Rica's national *Pagos por Servicios Ambientales* (PSA) program. At the time, the program's finances were in a state of flux, as the Ministry of Finance withheld full budgetary allocations earmarked for PSA operations. In need of institutional development funds, FONAFIFO approached the World Bank for assistance in preparing a proposal to the Global Environment Facility (GEF). The initial objective was to secure a $750,000 "medium-sized project" grant (Kellenberg, interview, 18 Nov 2011). Upon consultation with Bank agents, however, FONAFIFO was persuaded to aim higher. By the end of negotiations, the deal topped $40 million, 80% of which took the form of loans. This constituted a major victory for the World Bank and a reversal of policy for the government of Costa Rica, as the Bank had been denied the ability to lend in the country for more than a decade. With this agreement, the World Bank was firmly re-established as a player in Costa Rica's development agenda, and dependence on foreign debt was re-normalized in domestic policy. Before this initial project was even complete, FONAFIFO and the Bank had already begun to design its successor, which would bring an additional $40 million to FONAFIFO's budget, again predominately in the form of loans.

Of course, the "Ecomarkets" projects, as they are called, were not simply financial agreements that supported an existing program.[32] The World Bank's monetary

32 The initial project was titled "Ecomarkets". The successor is officially titled "Mainstreaming Market-Based Instruments for Environmental Management" (MMBIEM), but is usually referred to as simply "Ecomarkets II".

Figure 5.1: FONAFIFO central office, San Jose, CR.

Figure 5.2: The World Bank, Washington DC, USA.

contributions gained it a great deal of influence over PSA activities and the program's ultimate direction. In particular, the Bank's influence is evident in the evolution of the program's financing mechanisms, which have shifted towards direct financialized transactions between “users” and “providers” of ecosystem services. While the distinction between the initial PSA financing mechanism (a fuel tax) and the new financing mechanism established during Ecomarkets (a water tariff) is subtle, the effect is extremely important, as it has significant implications for both social and ecological outcomes. In the creation of new financial arrangements, opportunities for the re-allocation and consolidation of benefits arise, producing the conditions for uneven development. This chapter is an analysis of the shifting policy formations that present such conditions for expanded inequity. I find that the changes to program financing have fundamentally transformed the way in which resources are allocated and have deeply altered the underlying rationale for why payments for ecosystem services are being made.

In the pages that follow, I explain how changes to PSA financing constitute an ongoing process of neoliberalization. I do so by providing a detailed historical account of program financing and an understanding of the influence held by outside forces. This includes: a summary of how the program was initially funded through a tax on fossil fuels; an explanation of the vision articulated for the future of PSA financing, including FONAFIFO's role in that agenda; an understanding of how the World Bank re-entered Costa Rican affairs and gained influence over the PSA; and an assessment of the water tariff as a new revenue stream designed to approximate market transactions. After providing this empirical context, I step back to situate Costa Rica's new approach to conservation financing in the conceptual frameworks

critiquing capitalist development and provide the basis for interpreting it as a form of state-led neoliberalization. Finally, I anticipate some of the social and ecological implications of these changes, by exposing the uneven patterns of conservation-development that have already emerged with the mechanism's precursor.[33]

The Evolution of PSA Financing

A Tax on Fossil Fuels

When the PSA began, it was financed through a tax on fossil fuels. This tax was established under the same law that created the PSA (*Ley Forestal 7575*). Originally, the law earmarked one-third of a 15% tax on fossil fuels (in other words, 5% of fuel sales) to make payments to forest owners through the PSA. The idea was that these funds would be used to compensate landowners "for the environmental services to mitigate emissions of greenhouse gases and for the protection and development of biodiversity" (Article 69).[34]

These revenues, however, were not initially forthcoming. In fact, the Ministry of Finance transferred only a portion of these funds to FONAFIFO because of competing fiscal obligations and a limited national budget (Heindrichs 1997). Despite the language earmarking fossil fuel revenues in the forestry law, Finance is beholden only to the annual budget passed by the Legislative Assembly, and without specification there (or in other budgetary legislation), the Minister retains great

33 As I will explain in greater detail below, it is still too early to observe the distributive effects of the water tariff itself, as it has not yet been fully implemented.

34 The text of Article 69 reads: "De los montos recaudados por el impuesto selectivo de consumo de los combustibles y otros hidrocarburos, anualmente se destinará un tercio a los programas de compensación a los propietarios de bosques y plantaciones forestales, por los servicios ambientales de mitigación de las emisiones de gases con efecto invernadero y por la protección y el desarrollo de la biodiversidad, que generan las actividades de protección, conservación y manejo de bosques naturales y plantaciones forestales. Estos programas serán promovidos por el Ministerio del Ambiente y Energía."

power over the allocation of funds. As Franz Tattenbach, an individual who was closely involved in FONAFIFO's early budgetary concerns, explained, if the Assembly does not set the money aside "the Finance Minister will steamroll you" (Tattenbach, interview, 30 Jan 2012). The language in the original forestry law, he explains, was merely "an enabling condition", not a binding earmark (Tattenbach, interview, 30 Jan 2012).

In 1997, the program's first year of operation, a suit was filed by JUNAFORCA (an organization representing small timber producers) and the Costa Rican Chamber of Forestry against the Ministry of Finance, and an agreement that transferred $7 million for use within the PSA was reached (Watson et al. 1998). Concerns remained, however, that Finance was not bound by the court injunction for future years as the allocation was not an act of Congress – Tattenbach explained that even if Finance continued to provide the funds in the short term, without congressional action the PSA "would not survive a fiscal crisis" (30 Jan 2012). Indeed, the actual transfer of funds remained haphazard for several years, coming at unpredictable times and in unpredictable amounts. It was not until 2001, when the Legislative Assembly enacted the Law of Tax Simplification and Efficiency (No. 8114), that a binding mandate was issued. That law ultimately designated 3.5% of fuel sales to the PSA annually (Sánchez-Azofeifa et al. 2007). Though this was technically a reduction from the 5% initially identified, it was more than had ever actually been received to that point.

The intent of the fuel tax was to establish a level of correspondence between the source of conservation revenues and the conservation activity being undertaken – in

essence, it was to realize a financial relationship between "users" and "providers" of ecosystem services. In this case, the users are carbon emitters and the providers are landowners whose management practices provide carbon sequestration. It is possible, therefore, to interpret the tax as a "payment" by users of carbon sequestration, since they are being charged to counterbalance their emissions with forest expansion. Many analysts, however, reject this interpretation. Pagiola, for example, insists such a revenue stream can "only tenuously be regarded as a payment by service users" because it is non-voluntary and funds are "not used solely to generate carbon sequestration" (2008, 715-716). This, of course, is the nature of a tax; revenues are collected and then redistributed to achieve particular social and ecological objectives.

Others, however, saw the mechanism as more than just a "tax and spend" government program. Heindrichs (1997), for example, casts it as an innovative mechanism for application of the "consumer pays" principle, *not* an anti-market subsidy. From his point of view, the tax "represents a very important step forward in the management of forest resources – away from deficit-plagued, subsidized operations that are only able to survive with the aid of state 'alms' and toward a form of profitable, competitive land use based on sound business principles" (Heindrichs 1997, 2).

Regardless of the particular framing used to describe the tax, its redistributive flexibility has allowed targeting of priority conservation areas identified through various ecological studies (e.g. the GRUAS reports; see Zhang and Pagiola 2011) and the prioritization of lesser developed communities through use of the Social

Development Index (Porras 2010). Existing issues notwithstanding,[35] the ability to target the program is critically important to protecting the interests of vulnerable communities and ensuring that the most ecologically important areas receive first preference.

Key actors within the networks of the PSA program, such as Franz Tattenbach and John Kellenberg, however, were eager to find a replacement to tax revenue since the Ministry of Finance was seen to be unreliable. In interviews with each (30 Jan 2012; 18 Nov 2011), they reflected on how involvement of the World Bank was, in part, motivated by a desire to resolve this issue (explained in more detail below). After all, the tax was originally intended only to kickstart the program and then give way to market financing (Fletching and Breitling 2012; Sage and Sanchez 2002). Indeed, Carlos Manuel Rodriguez, former Minister of Environment, has indicated that he saw "the government as a temporary supplier of [financial] resources" for the program (Rodriguez, interview, 14 Feb 2012). The National Forestry Financing Fund (FONAFIFO), the implementing agency for the PSA, was tasked with the realization of such alternative private funding sources.

Fondo Nacional de Financiamiento Forestal

In addition to carrying out the day-to-day management of the program, FONAFIFO is tasked with the expansion and diversification of its operating budget. The agency is empowered under the 1996 Forestry Law to pursue a range of other revenue streams for use within the PSA program (*Ley Forestal 7575*, Article 47). The law

35 Prioritization based on regional, instead of individual, social criteria may be aiding the capture of benefits by the elite and exacerbating the potential for dispossession. Use of the Social Development Index gives a slight preference to the poorer *regions* of Costa Rica, but it does nothing to ensure it is the poor within those regions who benefit.

grants FONAFIFO broad “powers to obtain financing, enter into all kinds of forest-conservation and related transactions, and develop the forestry sector” (Granados quoted in FONAFIFO 2005, 17). Designed “under the 'maximum decentralization' model” (FONAFIFO 2005, 17), FONAFIFO has the authority to pursue a host of financing mechanisms, including securities, bonds, grants, loans, trust funds, “short-term investments”, and the sale of ecosystem services (Article 47).

Figure 5.3: “Offering resources for the development of the forestry subsector”.

While the forestry law explicitly states that FONAFIFO's fund raising activities must be “non-speculative” (Article 49), the agency is designed in such a way that it remains bound to the profit motive. Since FONAFIFO's administrative budget is tied to the revenue it generates for the program through a 5% internalization of funds (Fletcher and Breitling 2012), it has “a vital interest in identifying and developing new sources of funding” (Heindrichs 1997, 22). In other words, FONAFIFO's work is “performance-oriented” (Heindrichs 1997, iv), which replicates the imperative of profit maximization.

Beyond that, FONAFIFO's fund raising activities are aimed at realizing the radical market vision articulated by key actors within the institution's hierarchy. As explained in Chapter 4, two agents of FONAFIFO laid out a vision for the PSA in which it evolves from a tax-supported, government-mediated conservation program into direct financial transactions between "users" and "providers" of ecosystem services (Sage and Sanchez 2002). Beginning with the initial form of the new program, they re-conceptualized the PSA not as a subsidy, but rather as government "purchases" of "service rights" (Sage and Sanchez 2002). They then envisioned the program's evolution through several iterations that would culminate in government withdrawal and idealized direct financial transactions in open markets (Sage and Sánchez 2002, 73). As the former Environment Minister explains, the "ultimate goal is to create institutional, policy, economic, and social conditions for direct transactions between a provider and a user" of ecosystem services (Rodriguez, interview, 2 Feb 2012).

FONAFIFO's role in realizing this imagined future is in facilitating the establishment of market transactions, thereby enabling state withdrawal. It has pursued this objective in a number of ways. From its first year of existence, the agency began to develop private contracts with buyers of ecosystem services (FONAFIFO 2005). These entailed, for example, the sale of hydrological services (e.g. filtration, flow control, sediment retention) to hydropower producers, municipal water suppliers, bottlers, and agribusiness (FONAFIFO 2005; Pagiola 2008). Revenue generated from these purchases was then directed through the PSA to finance forest conservation. Negotiation of buyer-contracts, however, had to be done on an

individual basis, thus proving costly. In response, FONAFIFO developed the *Certificado de Servicos Ambientales* (CSA), an instrument to simplify private buyer involvement.[36] Each CSA represents one hectare of PSA-protected forest, so instead of negotiating a separate contract with each new buyer, FONAFIFO could simply sell the appropriate number of certificates. Importantly, these CSAs may also be traded, which creates the mechanism by which abstracted "service commodities" may be circulated in markets, just as originally envisioned by Sage and Sanchez (2002).

Notably, however, these market-based sources of revenue remain fairly insignificant to the overall PSA budget. More substantial supplements to the ordinary (tax) budget have come in the form of grants and loans from international development banks and donor organizations. The German development bank, *Kreditanstalt für Wiederaufbau* (KfW), for example, donated €10.25 million in the year 2000 to support PSA payments in the Huetar Norte region of Costa Rica as an extension of a previous conservation project supported by the German government. Further initiatives have also been negotiated by FONAFIFO with the United Nations Food and Agriculture Organization, the World Bank, and the Government of Japan, specifically for "reforestation" (i.e. plantation forestry) activities, though these have involved considerably less substantial funds (e.g. $300,000 from Japan for support of the *Reforesta* project) (FONAFIFO 2005).

Most significantly, FONAFIFO has negotiated the two large-scale projects with the World Bank and Global Environment Facility (GEF) mentioned above. This is a

36 These certificates should not be confused with Costa Rica's earlier system of forestry certificates, as they represent an abstracted "service commodity", not (as previously) a bond issued as direct government payment.

notable achievement for several reasons. For one, the projects have concerned over $80 million dollars. For another, these projects were the first time that the Bank had been able to lend money to Costa Rica in a decade (World Bank 2007), since the controversial and intensely unpopular Structural Adjustment Plans deeply tarnished the institution's reputation throughout much of Latin America.

The World Bank negotiates re-entry to Costa Rica

At the time that the Ecomarkets project was being negotiated, the World Bank had no permanent presence in Costa Rica as the San Jose field office had closed in the 1990s due to an unwelcoming political climate. With Structural Adjustment still ongoing, the government of Costa Rica was reluctant to get involved in anything that would "significantly increase an already heavy loan portfolio" (de Camino et al. 2000, 74). Not long before the Ecomarkets proposal, the government had declined to approve a separate project (the Conservation Area Management or "CAM" project) in an effort to "curtail external loans" (de Camino et al. 2000, 74).[37] Bank involvement in the country had only recently been re-established through a grant – unveiled to much fanfare during a high profile visit to Costa Rica by the World Bank President himself (Chavez 1998).[38] As such, preparation of Ecomarkets relied heavily on personal relationships between key actors (such as John Kellenberg, Luis Constantino, Franz Tattenbach, and Edgar Ortiz) at the Bank and within the Costa Rican forestry sector (Kellenberg, interview, 18 Nov 2011). Relationships that were established under the initial small-grant project opened doors and lines of communication for further

37 As de Camino et al. (2000) indicate, an exception had been made to allow the CAM proposal, but it ultimately failed when the proposed project grew beyond an acceptable size.

38 The grant was $500,000 (small by Bank standards) to support the *Oficina Costarricense de Implementación Conjunta* (OCIC), which oversaw Joint Implementation projects initiated under the Kyoto Protocol (World Bank 2007).

collaboration and World Bank integration.

It was from these personal connections that FONAFIFO's partnership with the World Bank emerged. As explained above, this partnership began with a request for assistance in preparing a "medium-sized project" grant application to the Global Environment Facility (GEF). "Seeing the potential for greater impact", however, "the Bank recommended the [proposal] be scaled up and blended with an IBRD loan" (World Bank 2007, 1).[39] It was an interesting development because, as John Kellenberg reflects, Costa Rica did not actually need to borrow the money since "they were in relatively good shape financially" (Kellenberg, interview, 18 Nov 2011). The case was similar to that of the failed CAM project proposal, in which "the Bank [had] pressed the government to support a large project that would be interesting to the Bank" (de Camino et al. 2000, 74). This time, however, the loans were integrated into the proposal, and the project was ultimately approved.

Given its relative financial stability, a history of institutional mistrust, and no real need for a World Bank loan, how is it that Costa Rica found itself entering into such an agreement? And for what reasons did this relationship begin?

In the eyes of Kellenberg, who was Task Team Leader for the Bank in the early days of the project, Costa Rica borrowed the money "because they wanted something else – they wanted stability, they wanted oversight, … they wanted to bring in … ideas from our side" (Kellenberg, interview, 18 Nov 2011). More specifically, it was

39 IBRD stands for the International Bank for Reconstruction and Development, the official name of the World Bank.

FONAFIFO and key actors within MINAE and the forestry sector that wanted these things, not necessarily all elements of the Costa Rican government and certainly not all Costa Rican people. To the operatives at FONAFIFO (whose mandate was to expand the PSA budget and whose tensions with the Ministry of Finance meant financial uncertainty) this relationship certainly would provide "stability", "oversight", and "ideas". To the average citizen (who had borne the brunt of austerity under Structural Adjustment) or to the segments of government hesitant to relinquish sovereignty to foreign debt, on the other hand, this relationship would provide quite the opposite: instability, loss of oversight, and ideas that were in direct competition with their own.

As Edgar Ortiz recalled, however, the general public "wasn't very aware" of the Ecomarkets proposal, and its architects were "able to sell the project like a pretty good deal for the country" (Ortiz, interview, 2 Feb 2012). By drawing on influential connections, such as Vice President Elizabeth Odio, they were able to place the loan agreement on the Executive agenda in the Legislative Assembly, which obliged the Deputies to consider the project. Reflecting on the process, Ortiz recalled "we had very strong power" (Ortiz, interview, 2 Feb 2012). In other words, negotiation of the loan provided a means for FONAFIFO to increase its political influence and advance its institutional objectives by way of leveraging external World Bank money.

For the Bank, on the other hand, the benefits of being involved in Costa Rica are far more straightforward. First, there is the obvious return on investment – by lending to Costa Rica the Bank will profit from interest paid. Despite its "development" mission, the Bank is managed according to profit maximization orthodoxies. Being

shut out from the country meant that lending and profit generation were decreased (albeit by a rather insignificant amount given the size of Costa Rica and the scale of World Bank operations). As Tattenbach explains, "they had not been able to lend to Costa Rica in 10 years, [and] it was not speaking well for the World Bank, so it was their interest to get back in Costa Rica" (Tattenbach, interview, 30 Jan 2012). As the high profile 1998 visit by the Bank president suggests, re-establishing a presence in the country was an important priority. Second, attaching itself to Costa Rican affairs affords the Bank certain green credentials through "progressive" support of conservation.[40] As John Kellenberg notes, "the GEF benefited because they were able to hook into" Costa Rican initiatives (Kellenberg, interview, 18 Nov 2011). Indeed, World Bank documents celebrate Ecomarkets as "one of the first fully blended IBRD/GEF operations to support an ongoing conservation program" (2007, 1).

The initial $750,000 proposal, however, would not have measured-up against the scale on which the World Bank normally operates. The Bank-driven expansion of the project (by more than 53x) reflects the ambition of certain operatives to see grand outcomes. John Kellenberg, who worked on Ecomarkets, reflected on how the negotiations unfolded. He recalled that "in our conversations we gradually got around to the point that we could do something *much* much bigger" than the agents of FONAFIFO had in mind (Kellenberg, interview, 18 Nov 2011). As he explained,

> I had worked on Global Environment Facility projects in the past, and I said you guys could get *a lot* more money than you're asking for. And so what we did then was we figured out roughly how much they could get from the GEF – we came up with the $8 million figure – and then we had to work out a co-

40 Tattenbach explains, "there was a lot of interest in this kind of climate change forestry", and the World Bank President, "a good friend of President Figueres", "was quite interested in these things" (Tattenbach, interview, 30 Jan 2012).

> financing arrangement to meet the requirements of the GEF (Kellenberg, interview, 18 Nov 2011).

Essentially, the project was designed around the availability of financial resources, rather than specific needs for financial assistance. Despite assurances that Bank projects are "not supply driven" (Aryal, interview, 20 Dec 2011), the Bank (or at least Bank agents) certainly have objectives of their own. Success in negotiating large-scale boundary-pushing deals, for example, is no doubt a factor in career advancement. Indeed, Kellenberg was later promoted to Sector Leader, before moving to the International Finance Corporation where he holds a high-power management position on the Global Leadership Team of the Sustainable Business Advisory.

FONAFIFO was, of course, very interested in what was being proposed, as the $8 million grant would provide windfall resources and constitute a huge success in terms of the agency's budgetary expansion directive. The availability of GEF funds, however, came with strings attached, as the institution has many strict requirements regarding government partnership, especially concerning the stability of counterpart funding. Given that the "Tax Simplification Law" (No. 8114) had not yet passed, the financial stability of FONAFIFO remained in question.[41] If FONAFIFO could not guarantee their contribution to the project, the GEF would not be willing to make the grant. And so, Kellenberg explains, "that's how … we started talking about the loan" (Kellenberg, interview, 18 Nov 2011).[42]

41 Despite the initial dispute with Finance, the fuel tax should not be viewed as an unreliable source of financing. Indeed, when the Legislative Assembly considered removing the tax at a time of high fuel prices, public outcry prevented it (Rodriguez, interview, 2 Feb 2012). The fuel tax revenues for the PSA are quite secure given that the legislature is being held accountable for continuing the budget appropriation.

42 This demonstrates how the GEF, ostensibly a donor organization, actually facilitates World Bank lending and the integration of reluctant borrowers into the global capitalist system.

A loan from the World Bank could provide the budgetary assurance that the GEF required because such an agreement would need to be ratified by the Legislative Assembly, thus obliging the Ministry of Finance to make its allocations. Such legislative action would then compel the Ministry of Finance to make its allocations to FONAFIFO and guarantee its contribution to the project. For this reason, FONAFIFO was also very amenable to the idea of the loan, since it would provide (at least temporarily) a level of fiscal security that it had never yet enjoyed. During the 5-year term of the loan, the ratified agreement would provide a mandate for budgetary allocations from the Ministry of Finance (with or without a resolution to the tax question). Essentially, FONAFIFO was acting on two fronts to sure-up its operating budget – resolving its dispute with the Ministry of Finance over tax revenue allocations through legislative action (i.e. Law 8114) and seeking temporary budget security through the World Bank loan. Both actions would provide a binding commitment to the original "enabling conditions" outlined in Forest Law 7575.

Before the loan agreement could be brought before the Legislative Assembly, however, FONAFIFO still had to convince the Ministry of Finance that it was in the national interest, as it was the Finance Minister, not the Environment Minister, who would sign the agreement. The Finance Minister, however, had to weigh many competing interests, concerns over the national debt load, and issues of conditionality (Tattenbach, interview, 30 Jan 2012), which have historically accompanied such lending (as had been the case with Structural Adjustment). Therefore, the Ministry of Finance did not initially support the Ecomarkets project.

In order to persuade the Finance Minister that the Ecomarkets project should be approved, the Environment Minister deployed the economic valuation of nature concept. As he explained, "I knew that [the Finance Minister] perceived me … as something [of] a nice guy who has a very noble responsibility, but he tended to be believe that I [did not] generate progress because I [did not] generate jobs or incomes or a lot of things" (Rodriguez, interview, 14 Feb 2012). So the Environment Minister started to "speak the language" of Finance, putting conservation in terms of the benefits it provided to the economy and to society:

> At that time, still, [from the perspective of Finance] forests didn't contribute to those political targets, which [were] economic growth and poverty alleviation. So we were forced to … frame our initiative in terms of the economics. … And when we started talking the same language [as] the Minister of Finance, he understood that [the Ecomarkets project] made a lot of sense (Rodriguez, interview, 2 Feb 2012).[43]

It was an effective and persuasive strategy, but it was only one of (and not even the most important) reason the loan was ultimately approved, as the Finance Minister was primarily concerned with immediate budgetary issues (Ortiz, interview, 2 Feb 2012).

The Finance Minster's primary concern was that the loan should not constitute additional revenue for FONAFIFO and the PSA. The Ministry of Finance (as the fiduciary representative of the government of Costa Rica) would be responsible for repaying the loan to the World Bank. In other words, the loan would need to be repaid from the national budget, *not* the FONAFIFO budget or future collections of the fuel tax (cf. Fletcher and Breitling 2012, 408). If the loan did not replace FONAFIFO's tax earmark, it would effectively be increasing the government's

43 This approach is exemplary of the wider processes of how conservationists end up articulating goals in financial language and how the hegemonic logic of neoliberal economics becomes embedded in practices that, at first glance, have rather little to do with traditional development.

liabilities and doubling the PSA budget. Thus it was agreed that the loan allocation would be a replacement of the tax earmark during the 5-year term of the project (Ortiz, interview, 12 Dec 2011). It was a concession acceptable to FONAFIFO since the agreement would still provide assured budgetary allocations for those 5 years and the additional $8 million GEF grant.

The primary reason the Minister of Finance approved the loan, however, was "because it made financial sense to him" (Rodriguez, interview, 14 Feb 2012). The government of Costa Rica was already borrowing money to finance its operations, but it was doing so internally at a high rate of interest. By taking the loan from the World Bank, the Ministry of Finance could substitute internal debt with external debt and decrease the borrowing rate from 10% to 1.5% (Ortiz, interview, 2 Feb 2012). As long as Finance did not also have to pay FONAFIFO its share of the fuel tax during the term of the loan, taking the money would actually result in savings for the government. This was ultimately the reason the Minister relented and agreed to support the project (Kellenberg, interview, 18 Nov 2011).

In addition to the backing from Finance, however, the project still required support from key individuals in the government for its ratification. Several "sweeteners" were therefore integrated into the deal. Vice President Elizabeth Odio (the person who would ultimately place the loan agreement on the legislative agenda), for example, was an important proponent of women's empowerment, and so a measure to increase the involvement of women was integrated into the Ecomarkets proposal (Ortiz, interview, 2 Feb 2012). In fact, one of the primary activities of the project

became increasing the enrollment of women in the PSA.[44]

Further support for the project was built on the prospect of receiving the $8 million grant from the GEF. Considered as a whole, the Ecomarkets package (i.e. loans plus grant) could be interpreted as an interest-free or net-positive transaction for Costa Rica.[45] Both FONAFIFO and MINAE viewed the Ecomarkets package as "a pretty good deal" (Ortiz, interview, 2 Feb 2013). Considering the grant alongside the loan, Franz Tattenbach asserts that "the truth of the matter was that the loan was [not a] loan" (Tattenbach, interview, 30 Jan 2012), since the grant more than made up for the cost of interest. In fact, he explained that some have even interpreted it as a "purchase" of biodiversity by global "service users" (Tattenbach, interview, 30 Jan 2012).

Even still, some reluctance to approve the loan remained at the Legislative Assembly hearings. As Edgar Ortiz explains, however, FONAFIFO "did a very good job in the National Assembly". He continues:

> We did the analysis of comparing what it would cost having internal debt versus external debt, and also the whole interest rate that you are going to pay for having the loan and the grant (Ortiz, interview, 2 Feb 2012).

In the end, the loan agreement "was passed almost unanimously", even receiving tacit support from the Libertarian Party, which "promised not to oppose it" (Tattenbach, interview, 30 Jan 2012). Reflecting on this, Tattenbach explained "that is the extent to which there is a consensus on this in Costa Rica" (Tattenbach,

44 Project Development Objective Indicator #2 of the Ecomarkets project is a "30% increase in the participation of women land owners and women's organizations" (World Bank 2000, 2).

45 The World Bank's willingness to offer such a disadvantageous loan in this instance needs to be understood in the context of its wider objectives, which include gaining re-entry to the country and a broader shift towards involvement in conservation.

interview, 30 Jan 2012).

The popularity of this arrangement at the highest levels did not wane through the term of the first project. Indeed, by the time the second Ecomarkets loan (known formally as the "Mainstreaming Market-Based Instruments for Environmental Management" project) came around, it passed through bureaucratic channels with considerable ease. Relative to the first project, far fewer barriers and far less reluctance to borrow from the Bank stood in its way. As Tattenbach recalled, even the libertarians voted in favor when it came before the Legislative Assembly (Tattenbach, interview, 30 Jan 2012). Libertarian support in this instance was even more significant, given that the second loan differed from the first in one major way: it did not replace FONAFIFO's portion of the fuel tax (Ortiz, interview, 12 Dec 2011). In other words, the second loan is not simply swapping internal debt for external debt – rather, it is additional debt for the nation and additional revenue for the PSA. The $30 million dollars approved by the legislature will be added to the Costa Rican government's total debt load. This shows the political commitment that Costa Rica has to the PSA and environmental projects, but it also represents a major victory for the World Bank, in that it has not only achieved re-entry to Costa Rica but also *re-normalized* a dependency on foreign lending to advance domestic programs.

The re-normalized relationship with the World Bank, of course, is about much more than simply a financial relationship. Certainly, the Bank will generate revenue by lending to Costa Rica, but the real significance is in how this relationship affords the Bank influence over Costa Rican affairs. Because the Bank is providing "assistance", it can expect to have some say over how resources are used and how

initiatives evolve. In fact, such a guarantee is explicitly written into the forestry law: Article 46 says that FONAFIFO will be the "instrumental legal entity, *unless the cooperating agency or the donor establishes different conditions for the beneficiaries*" (*Ley Forestal 7575*, my emphasis).[46]

This has played out, for example, in the case of the GEF grant. As Tattenbach explains, the GEF was allowed to set the standards for prioritization and select the areas that would be targeted for biodiversity conservation because of the view that it was acting as the "buyer" of "biodiversity services" (Tattenbach, interview, 30 Jan 2012). It did so through use of the GRUAS reports, prioritizing areas within the Meso-American Biological Corridor. While prioritization based on ecological criteria is rather sensible, the transferal of sovereignty over domestic conservation decisions to foreign technocrats is rather disconcerting. The GEF is many degrees separated from, and not directly accountable to, the people who will actually be affected by their decisions.

This sort of one-off purchase of influence is certainly significant, but it is less important than some of the more fundamental alterations to the PSA that the Bank has been able to encourage. Specifically, formulation of a new permanent revenue stream for the PSA bears the marks of the neoliberal ideology that is integral to World Bank influence. The *Canon de Aprovechamiento de Agua*, or "Water Use Tariff", is imbued with the ideals of direct financial transactions between "users" and "providers" of ecosystem services.

46 The text of the law reads: "El Fondo Nacional de Financiamiento Forestal contará con personería jurídica instrumental; salvo que el cooperante o el donante establezca condiciones diferentes para los beneficiarios" (Article 46).

Creation of the Water Tariff

The water tariff, as it exists today, was established by Executive Decree (32868-MINAE) in 2006 after a long period of scientific assessment and political maneuvering (Rodriguez, interview, 13 Dec 2011). The authority to do so was derived from the 1942 Water Law (No. 276), which stipulated that all water users must hold a concession and pay a fee to use the state-owned commodity. Until the 2006 decree, those fees were nominal, representing little more than administrative costs (Rodriguez, interview, 13 Dec 2011).

Beginning in 2002, the Ministry of Environment sought to expand conservation under the PSA by internalizing the "true cost" of nature's hydrological functions. When the idea of generating new revenue from water was first proposed, however, it was not well received, as there were concerns over the effect it would have on the economy. The Environment Minister recalled, "I wanted to put a tax on water pollution, and everybody said 'No, are you crazy, we are going to lose competitiveness!'" (Rodriguez, interview, 14 Feb 2012). Undeterred, the Minister prepared reports on the cost of degraded ecosystems to the various sectors of the economy (e.g. tourism, agriculture, fisheries, healthcare, energy). One of the studies undertaken was an assessment of the "ecological price of water", which was determined to be $2 per cubic meter (Rodriguez, interview, 2 Feb 2012). "So," the Minister explained, "that was the political baseline [where] I began negotiating" (Rodriguez, interview, 2 Feb 2012). Enacting actual policy from this information, however, proved a formidable task, as significant questions – regarding who was going to pay and how new resources would be allocated – still remained.

The tariff ultimately placed a fee on water *usage* rather than water *pollution*, being designed upon the existing private-buyer contracts described above. It is a significant distinction that not only carries important conceptual and material implications, but also framed the field of support and resistance to the initiative. Using the information he was generating about "ecosystem services", the Minister promoted the tariff to industry as an investment in "water factories" (Rodriguez, interview, 14 Feb 2012). Such a framing was readily accepted by industries that had relatively low water consumption in the production of high value goods. The national brewing company, which has annual sales of $250 million (Rodriguez, interview, 2 Feb 2012), for example, embraced the concept as a way of ensuring a clean supply of water for its operations, since the tariff would increase their concession fees by a mere $24,000 (Rodriguez, interview, 14 Feb 2012). On the other hand, industries such as agriculture, which has relatively high water consumption in the production of low value goods, found the idea objectionable. Indeed, it was the agricultural sector that led resistance to institution of the tariff. As the Environment Minister explained, they are "very inefficient in using water" so they were "not at all willing to pay" (Rodriguez, interview, 13 Dec 2011). The campaign to resist the tariff centered on the argument that the Ministry of Environment was attempting to increase charges by an unacceptable 10000% (Rodriguez, interview, 13 Dec 2011). In the end, a differentiated fee schedule was agreed upon (FONAFIFO n.d.) and the overall increase in water fees was 2500%, considerably lower than anticipated though still substantial.

Conceptually, the decision to design the tariff as a usage fee represents an important

shift from the "polluter pays" principle to the "beneficiary pays" principle – whereas the fuel tax collects revenues from carbon emitters (i.e. polluters of functioning ecosystems), the tariff collects revenues from water users (i.e. beneficiaries of functioning ecosystems).[47] The distinction between the two has important distributive implications. If the polluter pays, there is not necessarily a correlation between the contribution made and the benefits received (the burden may be concentrated, but the benefits are distributed). On the other hand, if the beneficiary pays, the link between the user and the provider is direct and immediate.

It is a situation similar to that which Bakker (2001; 2005) has identified in England and Wales, in which management of water supply has shifted away from assuring social equity towards achievement of economic efficiency. It is based on the transformation of "consumers' entitlements" into "utility services" (Bakker 2001, 143). The focus of water provision in Costa Rica, however, differs slightly from the example in England and Wales, where the issue is privatized water supply and the marketization of water consumption. In Costa Rica, the state has retained ownership of water, but is introducing a market-like mechanism for financing water treatment infrastructure (i.e. forests). Nevertheless, by charging users of water rather than polluters, the tariff is being brought into greater alignment with the ideals of neoliberal environmental economics, regardless of how partially it might be implemented. As Bakker points out, the various elements of neoliberalization "are not necessarily concomitant; one may privatize without deregulating; deregulate

47 It is possible to interpret payers of the fuel tax as beneficiaries of climate mitigation from carbon sequestration, but since the Forest Law casts it as an *impuesto de consumo*, or consumption tax, this is a dubious understanding (*Ley Forestal* 7575, Article 69). Moreover, given that revenues are re-purposed for provision of other services, most analysts conclude that the fuel tax "can only tenuously be regarded as a payment by service users" (Pagiola 2008, 716).

without marketizing; and commercialize without privatizing, etc" (2007, 434).

The ideological basis of this transition to usage fees and direct financial relationships is articulated in a range of publications by World Bank analysts (e.g. Pagiola 2008; Zhang and Pagiola 2011; Pagiola, Arcenas, and Platais 2005; Pagiola 2007; Pagiola and Platais 2002; Chomitz et al. 1999). While these perspectives are anything but monolithic, they generally subscribe to a characterization of PES as:

> a market-based approach to conservation financing based on the twin principles that those who benefit from environmental services … should pay for them, and that those who contribute to generating these services … should be compensated for providing them (Zhang and Pagiola 2011, 406).

Achievement of this particular framing of PES has been central to the World Bank's activities in Costa Rica. As Nadim Khouri ("task team leader" for the Bank during the proposal phase of the second project) explains, Costa Rica had succeeded in instituting half of Zhang and Pagiola's equation – the PSA realizes the objective that "you do something good, you get payment". But it had not yet achieved the other – that is, "the beneficiary of the good deed is the one paying you" (Khouri, interview, 5 Dec 2011). In his words, the PSA had not yet "reached nirvana" (Khouri, interview, 5 Dec 2011). Indeed, this was the justification used in the preparation of the second Ecomarkets project.

While the initial idea to expand PSA financing through water may have originated on the Costa Rican side, the influence of the Bank on its development is particularly significant. In fact, from the perspective of Dinesh Aryal, FONAFIFO's relationship with the Bank had been established (in part) to gain access to "some of the respected names" in PES development worldwide (Aryal, interview, 30 Dec 2011). And, as

Tattenbach indicates, "the water legislation had a lot to do with their push" (Tattenbach, interview, 30 Jan 2012). Khouri, as well, hesitates in attributing the final policy entirely to Costa Rican initiative. Once an idea is on the table, he explains, "you get your specialists on both sides to just work together and it's really a joint idea very quickly" (Khouri, interview, 6 Dec 2011).

Gunars Platais, a member of the Bank team, explains that they had "many many conversations" with the Environment Minister, telling him "you need to be able to channel money back" into the places from which it was collected (Platais, interview, 23 Feb 2012). By doing so, the system would function much more like a user-fee, since there would be more direct correspondence between the "users" and "providers" of ecosystem services. Platais explains that the Minister "took [this idea] and really went with it" (Platais, interview, 23 Feb 2012). Indeed, the final mandate contains language stipulating that fees collected from the tariff must be used within the watershed in which the revenues were generated (Decree 32868-MINAE, Chapter IV, Article 14).[48]

Furthermore, the tariff contains a provision that allows water users to opt-out of paying the tariff directly by, instead, entering into a voluntary agreement for service provision (Decree 32868-MINAE) – the idea being that this will encourage reluctant buyers (or "free riders") to enter the market. As Khouri indicates, "you get all these little gimmicks … that show you're getting a bit closer to the ideal payment for

48 The decree states that tariff revenues are to be used to finance payments on "*terrenos privados dentro de la cuenca donde se genere el servicio ambiental de protección del agua y se ubiquen en zonas de importancia para la sostenibilidad comprobada del régimen hídrico*", or "private lands within the watershed that generates the environmental service of water protection and that are located in zones of proven importance for the sustainability of the water regime".

environmental service" (Khouri, interview, 6 Dec 2011). The tariff, he explains, is "a bit better than a general tax on one thing or the other" because "if eventually this thing can be privatized, it makes a lot of sense" to have such frameworks in place (Khouri, interview, 6 Dec 2011). Even if it does not achieve the ideal model, "you're getting a bit closer" (Khouri, interview, 6 Dec 2011). While a compulsory water tariff hardly realizes the pure market transactions envisioned by the program's architects, the World Bank appears to consider it progress towards that ultimate objective. Documents from the second Ecomarkets project, for example, cast the tariff in a favorable light, praising its ability to generate finances "which directly correspond to users of the services" (World Bank 2006, 12). Pagiola explains that even though a "real market" may be out of reach, "we try to get as close as we can". Certainly, he explains, the tariff is "a much closer approximation … than the carbon tax" (Pagiola, interview, 23 Feb 2012). Short of the ability to create *actual* markets for the sale of ecosystem services, public financing is being re-designed to behave according to the logics of markets.

The difference between the "tax" and the "tariff" is more than just semantics. Rather than representing an expansion of taxation, as Fletcher and Breitling (2012, 408) suggest, the water tariff is, in certain ways, a step away from it. Unlike the fuel tax, the tariff is limited in how revenues may be used in targeting important ecosystems or assisting lesser developed communities. The design of the tariff re-orients the PSA under the logics of neoliberal economics, rather than the objectives of conservation or social development – payments are being made to realize (or at least approximate) idealized financial transactions. The implications of this are extensive. Most importantly, those who reside in "wealthy" watersheds (i.e. those with

significant water concession holders) receive a disproportionately greater share of the benefits of the PSA. The consequence of the tariff, I will elaborate below, is the expansion of geographically uneven patterns of conservation-development. First, however, I will step back to situate this empirical content in some of the theoretical context introduced in Chapter 2.

Conceptualizing Development and State-Led Neoliberalization

The obvious theoretical framework for exploring uneven spatial patterns of development is the landmark work explaining "nature, capital, and the production of space" – that is, of course, Neil Smith's *Uneven Development* (2008 [1984]). As I have explained already, this framework is, in the words of Scott Prudham and Nik Heynen, "an attempt to fuse a conceptualisation of the uneven spatiality of capital accumulation with the quixotic and seemingly untenable claim that capitalism literally produces nature" (2011, 224). Indeed, that book's insight into capitalism's production of both nature and space, and into the false dualism between nature and society, is integral to my analysis of the Costa Rican PSA. Drawing on the idea that capitalism produces new social relations with nature that are based on the profit and accumulation imperatives, Smith provides the outlines for understanding how conservation is inextricably linked to development and the uneven distribution of wealth (i.e. the production of space). What Smith's theorization enables is the re-orientation of questions about environmental management (i.e. the conservation or consumption of "natural" spaces) to fundamental questions of social and ecological justice – who controls what resources, how, for what purposes, and to whose ultimate benefit?

In no uncertain terms, Smith's ideas are at play in Costa Rica; existing patterns of development are inseparable from the movements of capital, production, and the labor process. Where conservation occurs, and what form it takes, are certainly a function of new productive activities such as ecotourism, bio-prospecting, carbon offsetting and, especially, the "sale" of ecosystem services. Costa Rican nature is "increasingly a product of capitalism and, more importantly, cannot be understood apart from capitalist dynamics of production, circulation and exchange" (Prudham and Heynen 2011, 227).

The production of "natural" spaces in Costa Rica, however, as I have shown already, is also linked to state activities. Indeed, private capital (currently) plays a rather insignificant role in Costa Rica's PSA.[49] The unevenness that is the focus of this chapter actually arises from the decisions government has made to target limited financial resources for the conservation of certain areas and not others. Rather than trying to design the program to break the patterns of uneven development associated with capitalist production, the government has chosen to emulate the market and, thus, reproduce familiar patterns of accumulation and inequity. This neoliberalization of environmental governance in Costa Rica, as I have suggested, has taken place at the hand of the government and at the encouragement of World Bank financiers.

It is important to note, however, that involvement of the state does not foreclose on the existence of neoliberalization. The work of critical scholars is emphatic about the

49 The proportion of program financing that could be regarded as market-based remains wholly insignificant, amounting to a mere 0.5% since the start of payments. According to a budget report from FONAFIFO (2011c) revenues from private buyers amount to ₡507.5 million compared to a total budget of ₡99.8 billion.

tendency of states to expand, in their efforts to form and sustain neoliberal markets (Peck 2010; Peck 2004; Larner and Craig 2005). Indeed, as Fletcher and Breitling assert of the Costa Rican case specifically, not "*all* government intervention is inherently anti-neoliberal" (2012, 409). Thus, the introduction of market-like financing to Costa Rica's PSA can be understood as the expansion of state-led neoliberalization, and it is possible to uncover the inequity such an agenda produces. In the remainder of this chapter, I will investigate the consequences of Costa Rica's rapidly neoliberalizing approach to conservation financing and consider its effect on geographical patterns of conservation-development.

Uneven Conservation Development

At the encouragement of actors at the World Bank such as Stefano Pagiola, Gunars Platais, and Nadim Khouri, the government of Costa Rica designed the water tariff to behave as a market-like proxy of direct financial transactions between users and providers of ecosystem services; the revenues generated from it must be re-invested in ecosystems that deliver benefits to those who have paid-in. In other words, the tariff is anti-redistributive, concentrating resources in places where development is already established. It will, in effect, inscribe on the landscape patterns of conservation that mirror existing patterns of privilege and fortune.

Thus far, however, it is still too early to observe the distributive effects of the tariff itself, as it has not yet been fully implemented as it was designed. The Water Department is not yet equipped to track and report the source of the tariff revenues it collects, so FONAFIFO has been delayed in its ability to target payments in the way

that it is required (Pagiola, interview, 22 Nov 2011).[50] It is, however, possible to anticipate some of the social and ecological implications it is likely to have. Insight to the effect of the tariff can be drawn from what has occurred with the private voluntary-buyer contracts. As the precursor and model for the tariff, these contracts distribute financial resources in exactly the same way – that is, payments are circulated from the "users" to the "providers" *within the watershed in which the revenues were generated*. By considering the outcome of these contracts, it is possible to extrapolate what will happen with the tariff based on the principles and design of the mechanism.

The private contract established with the *Compañia Nacional Fuerza y Luz* (CNFL) is illustrative. CNFL is a hydroelectric power producer with small "run-of-the-river" power stations in several locations throughout Costa Rica (Porras and Neves 2006). As a buyer of hydrological services, CNFL was able to specify where PSA contracts should be targeted, establishing spatial correspondence between its payments and the watersheds in which its operations are based (precisely as the tariff will do). All of the revenues from the CNFL contract (approximately $5 million) were concentrated in four watersheds: Aranjuez, Balsa, Cote, and Virilla (figure 5.4).

50 Importantly, this should not be interpreted as a failure of the tariff to live up to its intended design. All of the structures and legal frameworks are in place and the will exists, so it is only a matter of time before the Water Department begins generating the necessary information and revenues begin to be spatially targeted. Indeed, "component 2" of the second Ecomarkets project is aimed at realizing this capacity (World Bank 2006, 8).

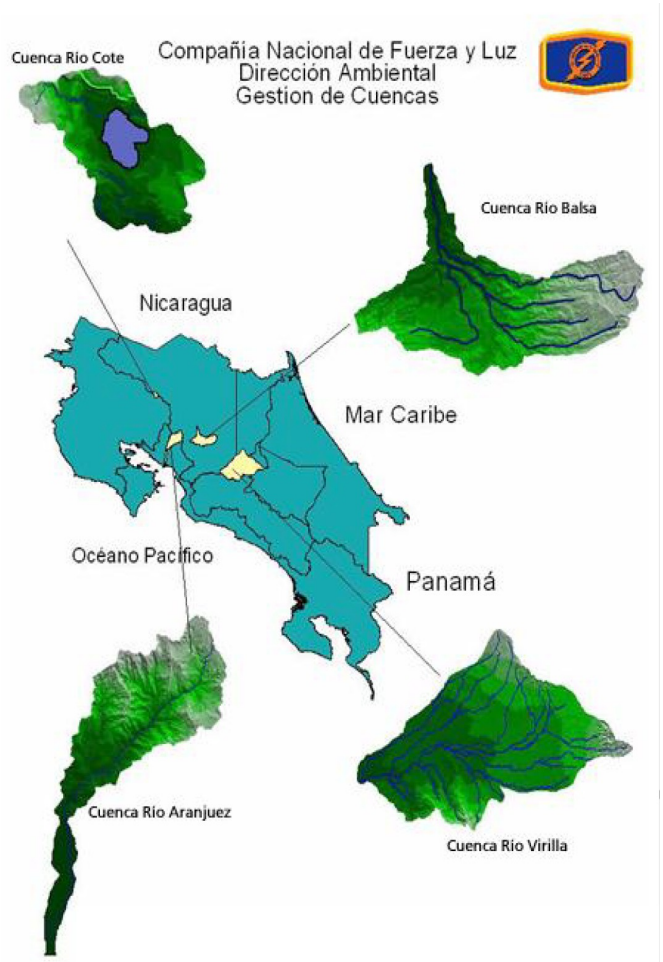


Figure 5.4: Watersheds in the CNFL contract (FONAFIFO 2005, 47).

The agreement stipulated that 4000ha, 6000ha, 900ha, and 4000ha from each watershed, respectively, were to be entered into the PSA (Porras and Neves 2006). These were significant concentrations of PSA contracts (see figure 5.5), particularly in the tiny *Rio Cote* watershed. Compared with an enrollment rate of 8% nationally (FONAFIFO 2005), communities in these watersheds are far more densely enrolled, meaning that they are receiving a disproportionate share of the benefits. Enrollment density is three to four times higher than the national average in the Aranjuez, Balsa, and Virilla watersheds and a staggering nine times higher in the Cote watershed. Importantly, these resources are being concentrated in these locations, not because

the ecosystem has been deemed to be biologically important or because there is high social need, but because profitable industry is located there, ensuring expanded production for an electric company.

Watershed	Total area of watershed	Target enrollment	Percent of watershed landmass	Enrollment density compared with average
Aranjuez	15,638 ha	4,000 ha	25.58%	3.20x
Balsa	18,926 ha	6,000 ha	31.70%	3.96x
Cote	1,259 ha	900 ha	71.48%	8.94x
Virilla	14,200 ha[51]	4,000 ha	28.17%	3.52x

Figure 5.5: CNFL contract targets (Porras et al. 2006)
note: actual enrollment is currently below target, but still ongoing

The heavy concentration of conservation resources in these areas stems from the terms of the private agreements, which stipulate that revenues must be used to directly benefit the buyer. With the tariff, these conditions are emulated through the spatial constraints imposed by legal mandate; tariff revenues must be used within the watershed in which they were generated. Just as has been the case with the private buyer contracts, this will have the effect of reinforcing geographical differentiation in two main ways.

First, conservation will become correlated with economic development rather than ecological diversity; the tariff will be unable to finance conservation of areas of high biological importance if they fall outside of any watershed with concession holders. While the PSA chief at FONAFIFO suggests that this is not a problem in Costa Rica

51 Despite the being a larger watershed, payments were further concentrated in 142km^2 (14,200 ha) of the "upper part of the basin" (http://unfccc.int/kyoto_mechanisms/aij/activities_implemented_jointly/items/1892.php).

because no land is that far from revenue-generating water concessions (Sanchez, interview, 15 Feb 2012), such an assessment disregards the fact that these concessions are neither uniform nor correlated with the biological importance of adjacent ecosystems. Indeed, early analysis has already found that much of the revenue generated from the tariff "must be spent in areas that are not priority biodiversity conservation areas" (Zhang and Pagiola 2011, 414).[52] Second, the tariff cannot prioritize impoverished areas if no concession-holding industry is located there. Early analysis has found, here as well, that "the areas to which the bulk of watershed payments are targeted are simply not the poorest" and that "where watershed payments and low social development coincide, available funding is too limited to have significant impact" (Zhang and Pagiola 2011, 413).

Concentrating conservation in areas that have the means of paying for it ensures only the most privileged communities will enjoy the benefits – that is, the "services" from functioning ecological systems will be narrowly distributed. This means, for example, the positive health effects of conservation will be delivered to communities that already have higher relative development. It also means that the benefits of participating in the program itself (e.g. direct payments) will be captured by those who need them least – quite significant given the extent to which participation can improve a household's status.[53] Furthermore, economic activities that degrade ecosystems (e.g. intensive agriculture and ranching) will be displaced from areas of

52 Even though FONAFIFO lacks the data necessary to fully implement the tariff as it was designed, they have tried to "live up to the spirit of the law" by concentrating tariff revenues in areas of hydrological importance (Pagiola, interview, 22 Nov 2011).

53 A typical PSA contract pays out $5850 annually, based on an average conservation contract size of 91.4 hectares (Zbinden and Lee 2005) and the current payment rate of $64/ha/yr. This is a substantial sum in a country with average annual income of just $7640 (World Bank 2011), particularly since payments are usually just supplementary to "off farm" income (Zbinden and Lee 2005).

greater conservation-development and concentrated around poorer communities. At the same time, activities that rely on diverse ecosystems (e.g. ecotourism) will concentrate around wealthier communities, affording not only "services" such as clean water and air, but also new economic opportunities.

While the tariff's design will clearly, indeed *intentionally*, constrain revenues in ways that lead to uneven conservation-development, Pagiola contends that this actually maximizes the PSA's benefits by helping to "ensure that [financial] resources are used where water needs are greatest" (Pagiola 2008, 715). The assumption is that market demand reflects social need and that, by constraining the use of tariff revenues to those places where it was collected, limited resources can be concentrated where they deliver the greatest good. Market demand, however, does not reflect where social *need* is greatest, but rather where the *value* of hydrological services is highest. In this way, PSA financing is being reoriented towards capitalist logics of economic efficiency, despite the consequences of accumulation. The result, given the principles and design of the new financing mechanism, is likely to be the *uneven* accumulation of conservation benefits and the related concern that "policy based on optimization of ecosystem-service values will not necessarily lead to the conservation of biodiversity" (Reford and Adams 2009, 786).

Conclusion

The neoliberalization of a program like the PSA does not simply arise out of the immanent processes of capitalist development, it is actively and deliberately fostered through an intentional development agenda. In this case, I showed that it was promoted by a (quasi-autonomous) government agency, FONAFIFO, as a means of

accessing substantial financial resources and bolstering institutional influence, and that it was encouraged by an external development agency, the World Bank, driven by its own capitalist lending rationalities. I emphasized the marketization element of neoliberalism, which is central to conceptions of payments for ecosystem services,[54] and I showed that, to bring the PSA into greater alignment with this conception, the program's new financing mechanism was designed to approximate market transactions. Namely, the tariff establishes direct correspondence between users and providers of ecosystem services through a stipulation that tariff revenues must be used within the watershed in which they were generated. In other words, the tariff emulates a market relationship by ensuring that money is exchanged as compensation for the provision of hydrological services. Short of the ability to create actual markets, public financing is being re-designed to behave according to market logic. Rather than trying to break the patterns of uneven development associated with capitalist production, the government has chosen to reproduce the conditions that drive it.

This, of course, is in contrast to the fuel tax, the original PSA financing mechanism, which enabled redistribution of revenues based on social and ecological criteria. In other words, there did not necessarily have to be a direct correspondence between revenues the tax collected and the "services" it generated. While the fuel tax got the PSA up and running, the revenue it generated for the program was seen to be rather unreliable, at least initially. Until the legislature passed the Law of Tax Simplification and Efficiency (No. 8114), budgetary allocations from the tax to the

54 Zhang and Pagiola, for example, suggest that PES is "a market-based approach to conservation financing" that establishes a direct financial link between service providers and beneficiaries (2011, 406).

PSA were haphazard and incomplete, creating an urgent sense among policy officials that an alternative revenue stream was needed.

I showed that FONAFIFO's budgetary expansion mandate led it to pursue a wide range of financing mechanisms, including private buyer agreements and a market in Environmental Service Certificates (CSAs), but that its most significant development, the water tariff, began with the $80 million partnership with the World Bank and Global Environment Facility. The neoliberal ideologies that inform World Bank conceptions of ecosystem services (Pagiola 2008; Zhang and Pagiola 2011; Pagiola et al. 2005) are evident in the tariff's design. As I explained, the Costa Rican Minster of Environment originally intended to place a tax on water pollution and use the revenues, in much the same way as the fuel tax, to generate hydrological services through ecosystem conservation under the PSA. Ultimately, however, a fee was placed on water *usage* rather than water *pollution*, which represents an important shift from the "polluter pays" principle to the "beneficiary pays" principle.

The distinction between these two approaches to financing has important distributive implications. If the polluter pays, there is not necessarily a correlation between the financial burden and the recipient of the environmental benefits from conservation (financial assets can be redistributed according to ecological priorities and social need because the polluter holds no right to directly benefit). On the other hand, if the beneficiary pays, the financial link between the service user and the service provider is made direct and immediate. Adoption of the tariff, thus, brings PSA financing into greater alignment with neoliberal ideals about economic transactions in a market environment. As I explained, Nadim Khouri, "task team leader" during the proposal

phase of Ecomarkets II, understood environmental taxes as achieving only half of the financial equation – that is, "you do something good, you get payment". In his view, it requires going a step further to realize the "ideal" relationship – that is, "the beneficiary of the good deed is the one paying you" (Khouri, interview, 5 Dec 2011). That, I showed, is precisely what the tariff was designed to do.

While the tariff hardly realizes the pure market transactions originally envisioned by the program's architects (e.g. Sage and Sánchez 2002), it is considered progress toward that ultimate objective. World Bank documents praise the tariff's ability to generate finances "which directly correspond to users of the services (World Bank 2006, 12), and Stefano Pagiola explains that while it may not be a "real market", it is certainly "a much closer approximation" than the fuel tax (Pagiola, interview, 23 Feb 2012).

My task, of course, has been to show how this effort to approximate market relationships is an expansion of state-led neoliberalization, in order to anticipate the more-than-capitalist production of uneven geographical space. As I explained above, Smith's path-breaking "production of nature" thesis (2008 [1984]) provides one of the best articulated theoretical frameworks for understanding how conservation decisions are inherently linked to the geographically uneven production of space. In recognizing how capitalism produces new social relations with nature according to the profit and accumulation imperatives, Smith provides the outlines for understanding how conservation is inextricably linked to development and the uneven distribution of wealth. This not only enables, but also demands that questions of environmental management are re-oriented to consider issues of social and

ecological justice.

Drawing on evidence from the program's precursor and basing assertions on the principles of their common design, I concluded that those who reside in “wealthy” watersheds (i.e. those with significant water concession holders) stand to gain a disproportionately greater share of the benefits from the PSA under its neoliberalized tariff financing. This is likely to occur because of the provision in the decree that mandates revenues generated from the tariff must be re-invested in ecosystems that deliver benefits to those who have paid-in. The result is that the tariff is unable to finance conservation of areas of high biological importance if they fall outside of any watershed with water concession holders, and it cannot prioritize impoverished areas if no concession-holding industry is located there. What is particularly significant in this case is that financial resources are being concentrated in particular watersheds, not because of their biological importance or the local community's social need (those factors are never evaluated in the expenditure of tariff revenues), but because they ensure the production of services for concession-holding industry.

Notionally, the tariff allows greater local control over conservation management, as financial resources cannot be transferred from one watershed to another. However, the tariff also shifts the responsibility for targeting funds for conservation from government to industry actors, from being carried out in the public interest to being carried out according to private ones; revenues from the fuel tax could be re-distributed to priority conservation areas, whereas revenues from the tariff must be used to benefit the concession-holders that paid in. Identification of conservation target areas is left for the (simulated) market to determine. While this may reveal

where and which services have the greatest economic value, it does far less to indicate where and which are the most important. In effect, this financing mechanism does more to ensure that those who have the means to pay for conservation are the ones who are able to enjoy the benefits of it, and less to ensure local communities are responsible for their local environments.

Obviously, the ecosystem services concept is a persuasive rhetorical device (it was used to convince the Minister of Finance that conservation should be a priority and it was used to justify a new financial burden to various sectors of the Costa Rican economy), but it is essential to look beyond the way in which the concept is used to communicate the importance of ecosystem conservation, to see where it is likely to lead. When it is used to actually manage ecosystems according to the logics of neoliberal economics, I have shown, it will result in uneven conservation-development and distributional injustice.

CHAPTER VI

Neoliberalization of PSA Contracting

Forestry in Costa Rica has undergone a dramatic transformation over the last several decades. A country once infamous for an unmatched rate of deforestation has become one of the most highly regarded for its conservation achievements. In this transition, the work of the professional forester has shifted from overseeing extraction and managing timber plantations to (mainly) overseeing the conservation of existing forest ecosystems. Under the PSA, it is the forester that provides the expertise for managing ecosystems to deliver ecosystem services. These changes in professional practice, however, go beyond simply the type of work being carried out, to include important structural changes to how work is organized. The decentralization and privatization of the labor force has re-shaped both the experience of work and the operation of the PSA program, which has, in turn, brought about an individualization of landowner participation. These changes have had important effects on PSA contracting and, ultimately, on who benefits from the ecosystem service payments that are made.

This chapter explores how the neoliberalization of forestry work (through the promotion of competitive PSA contracting) has resulted in an uneven distribution of benefits and a comparative advantage for larger landowners. First, I will articulate a conceptual frame for this chapter by drawing upon Marxist theories of the "coercive laws of competition" and more recent work on scalar tensions between competition and cooperation. Then I will provide context for what has occurred in Costa Rica, through a detailed overview of the forestry industry, including its privatization and

decentralization. Following that, I will discuss the effect of these actions on the operation of the PSA by drawing on three organizations that have been involved in contracting. Specifically, I will explain how the existing system has fostered competition among forestry workers, and I will outline what effect this has had on program participation. Then I will explore the tensions between competition and cooperation through an assessment of the (now defunct) group contracting mechanism. Finally, I will discuss the implications of these changes to PSA contracting – namely, I will illustrate how competition has not decreased the cost of participation for all landowners, but rather has disproportionately benefited the larger and (usually) wealthier among them.

Competition and Cooperation

Coercive Laws of Competition

> "Under free competition, the immanent laws of capitalist production confront the individual capitalist as a coercive force external to him" (Marx 1976, 381).

Competition under the PSA was introduced as a means of pursuing economic efficiency. While there is evidence to suggest that the cost of participating in the program has declined for *some* landowners (explained in detail below), an understanding of how the "immanent laws of capitalist production" manifest through competitive structures and force pursuit of capital accumulation is essential to appreciating the wider significance of these changes.

Harvey (2010) identifies the "coercive laws of competition" as the conditions that impel actors within a capitalist system to pursue accumulation and profit-

maximization, despite the destructive consequences it may bear upon nature and society. As he explains, if an actor in a capitalist system does not "reinvest in expansion and a rival does, then after a while [he or she is] likely to be driven out of business" (2010, 43). Actors within the system "need to protect and expand [their] market share" (Harvey 2010, 43), in order to remain viable. Regardless of what other motivations or desires they might have, the coercive laws of competition impel pursuit of actions that maximize profit and accumulate wealth.

Perhaps one of the most poignant examples of this is the Ermen & Engels Mill of Victorian Manchester, which was underwritten by the wealthy father of Friedrich Engels, Marx's closest colleague. Somewhat incongruously with his writings, Engels himself spent two decades working in a management position in the mill (Hunt 2010). The conditions of workers in Victorian Manchester were absolutely deplorable (Engels 1993), and the young socialist thinker, no doubt, would have wanted to improve them in his own mill. But what could have been done? While the co-owners and even Engels' own family would not likely have permitted anything radical (Hunt 2010), an even greater barrier to progressive action in the interest of workers was presented by the coercive laws of competition. Improvement of conditions and payment of fair wages would have rendered the company uncompetitive and ensured its failure. If the mill failed, it would simply have been replaced by a rival that was willing to submit to the coercive laws. Regardless of what Engels might have wanted, he was constrained by the system in which society operated. While there is a degree of irony in this co-author of the *The Communist Manifesto* profiting from the labor of others and, indeed, in that those profits supported the work of Marx himself (Hunt 2010), there are structural barriers to what

could have been achieved and that compel a particular relationship between actors within a capitalist economy.

In addition to constraining the actions of individual capitalists, these coercive laws cause innovations that expand profit to propagate throughout the entire system, regardless of the social or environmental harm they may cause. As Cleaver points out, "competition acts to circulate productivity-raising technological change" (2011, 1). When innovation occurs and costs are reduced, the innovator gains an advantage and captures a greater share of the surplus value. With expanded production, supply increases, driving down prices and ultimately threatening the market share of others. Rivals are, thus, "under pressure to adopt the same or similar productivity-raising innovations" (Cleaver 2011, 2), and the new technologies or practices diffuse throughout the system. In other words, the coercive laws of competition also drive the uptake of technologies.

Marx provides greater conceptual clarity on the means by which this occurs in volume one of *Capital*, characteristically centering the origin of these "coercive laws" in the structural dynamics of a capitalist system. As he explains, "a scientific analysis of competition is possible only if we can grasp the inner nature of capital" (Marx 1976, 433) – we must understand how capitalist production drives competition, in order to understand how competition elevates profit over social or environmental responsibility. Marx explains the relationship between innovation and the value of commodities with recourse to the labor theory of value; he says "the law of the determination of value by labour-time" compels "the individual capitalist who applies the new method of production … to sell his [*sic*] goods under their social

value" (Marx 1976, 436). In other words, the idea that labor is the source of all value means that the value of goods decreases when innovation reduces the labor required to produce them, which in turn creates a difference between the "individual value of the cheapened commodity" and the average value ascribed by society (Marx 1976, 436). The result is that the innovator captures a greater market share and surplus value compared to rivals whose goods require greater labor investment. This means that rivals must adopt the same innovations in order to recover their shares and remain viable. In this way, it is actually the same law of the determination of value by labor-time, "acting as a coercive law of competition", that is forcing the innovator's competitors to adopt the new method of production (Marx 1976, 436). Ultimately, it is the structural dynamics of the capitalist system that drives the uptake of new technologies or practices, even if they are destructive to society or the environment.

Scalar Tensions between Competition and Cooperation

A question of important relevance to the material implications of this concerns the scales at which these coercive laws of competition operate. The economy, after all, is not composed of entirely disconnected actors competing in every way. A great deal of cooperation occurs between rivals at particular scales. As Neil Smith points out, corporations cooperate broadly within nation-states to influence the regulatory environment and establish common labor laws, infrastructure, communications networks, and national defense, even while they may compete for market share, product identity, and technological advantage at different scales (2003, 228-229). It can be seen that the existing scalar organization of the economy emerged as "a vital geographical means for coordinating and arbitrating economic competition between

capitals" (Smith 2003, 229).

Importantly, Smith explains, "the geographical scales of human activity are not neutral 'givens', not fixed universals of social experience", but rather a product of the very communities that operate within them (Smith 2003, 228). Not only is scale "a materially real frame of social action", it is a socially produced "platform and container of certain kinds of social activity" (2003, 228). In other words, the scales at which particular social interactions occur are themselves produced within the context of social, economic, and political relationships that enable or proscribe particular forms of social enterprise. "At the very least", Smith continues, "different kinds of society produce different kinds of geographical scale for containing and enabling particular forms of social interaction" (Smith 2003, 228).

Thus, the scales at which economic actors are brought into competition or encouraged to cooperate are not arbitrary; they emerge from existing power relations and serve narrow interests (or are, otherwise, deliberately produced by powerful actors to achieve some specific political or economic ends). There is a certain intentionality to the scalar organization of the economy that serves to elevate the interests of specific actors above those of others. As such, "the demarcation of scale should be seen as absolutely central to the processes and politics of uneven geographical development" (Smith 2003, 229).

In Costa Rica, there have recently been two significant scalar shifts in the political and economic organization of the forestry industry: the individualization of forestry work and the individualization of landowner participation. Both have occurred in a

neoliberal push to dissolve collective organization and reconstitute particular power structures. In the pages that follow, I will demonstrate how the coercive laws of competition are at play in forestry management planning, as professional foresters compete to provide management-planning services. Foresters, in this case, have been deliberately organized into a competitive system under the presumption (and pretext) that it will result in increased efficiency (through a process of downward bidding wherein prices stabilize at the lowest possible rates). I will show, however, that the effect of this competition has not only been to place profit-maximization ahead of social or environmental responsibility, it has also resulted in the uneven distribution of benefits, as the savings from efficiency gains are delivered to the largest and wealthiest participants in the program. Then, shifting the focus to the participants themselves, I will explore the tensions between competition and cooperation in the second scalar shift, which saw the replacement of community level contracting with the coordination of contracts at the individual level, further compounding the problem of large landowner advantage.

Forestry in Costa Rica

In moments of transition there are opportunities for political and economic transformation, as legal frameworks are amended and governing structures are renegotiated. One such moment arose in the aforementioned reorientation of Costa Rica's forestry sector from extraction to conservation.

In stark contrast to its history, forestry in Costa Rica today is primarily about management for conservation purposes (Evans 1999). While some timber production still occurs, it is tightly controlled; cutting requires a permit and detailed management

plan, activities are monitored by professional foresters, domestic timber transport must be certified, and exports are closely tracked (Navarro and Thiel 2007). Moreover, an outright ban of land-use conversion was instated under the 1996 Forestry Law (Law 7575), meaning that lands with existing forest may no longer be brought into production. Hence the timber produced in Costa Rica comes almost entirely from plantations. Though it is a relatively minor aspect, the PSA actually continues to support these activities through three contract modalities: "reforestation" (i.e. plantation forestry), "forest management" (i.e. selective cutting), and agroforestry (i.e. integrated timber and crop production) (Decreto-37660 2013).[55] The conservation modality of the PSA, however, makes up the vast majority – upwards of 90% (Porras 2010) – of contracts that are entered into the program.[56] This is partly because such contracts are easier to implement, both in terms of the management plan required from the forester (Alfaro, interview, 23 Jan 2012) and in terms of the actions required by the landowner (Segleau, interview, 16 Jan 2012). But conservation is also partly more popular because there is greater profit potential and lower opportunity costs associated with it; forest may not legally be removed so one of the only ways to make land with forest "productive" is through enrollment in the PSA. In other words, the conservation modality does not need to compete with the more lucrative land uses (such as intensive agriculture and ranching) with which the "reforestation" modality, for example, must.

55 *Manejo de Bosque* or "forest management" is occasionally referred to as "sustainable forest management" (SFM). It is the name used for a very limited form of timber harvesting from "natural" (i.e. non-plantation) forests. The SFM modality is controversial and was temporarily eliminated from the PSA during the years that Carlos Manuel Rodriguez was Minister of Environment. As he put it, "one thing I had very clear … is that sustainable logging in Costa Rica is not sustainable. … If you see where [Costa Rica] gave sustainable forestry permits, today we don't have forest there" (Rodriguez, interview, 13 Dec 2011).

56 Recently, the conservation modality was further sub-divided into standard forest protection, forest protection in "conservation gaps", protection of hydrological resources, and "natural regeneration" (Decreto-37660 2013).

Presently, the PSA is managed by FONAFIFO, the quasi-governmental agency created originally to oversee the financial assets of national forestry programs. FONAFIFO has its origins in a period of broader government decentralization during the early 1990s. The ministry responsible for environmental policy at the time, MIRENEM,[57] was led by René Castro, who enthusiastically pursued policies that relied on "cutting-edge technical and administrative skills and ideas learned abroad" (Silva 2003, 102). These took a decidedly neoliberal disposition, emphasizing "administrative decentralization … and [relying] on market-oriented policy instruments for both regulation and financing" (Silva 2003, 102). When it was designed, FONAFIFO was given a special hybrid public/private status to allow greater flexibility in managing various revenue streams, allowing it access to public finances, but sheltering its private revenue streams from ordinary bureaucratic channels.

Responsibility for forestry financing had been transferred to FONAFIFO from the *Dirección General Forestal* (DGF or "General Forestry Directorate"), which was the agency established under Costa Rica's first Forestry Law in 1969 (Law 4465) to regulate and control forestry activities (FONAFIFO 2005). The DGF was further empowered by the second Forestry Law in 1986 (Law 7032) and organized around a traditional "top-down", command and control model that employed professional foresters to oversee and monitor forestry activities (Lansing 2013). It was also an important forum for peasant organizations and a champion of "social forestry"

57 MIRENEM is the *Ministerio de Recursos Naturales, Energia, y Minas* (Ministry of Natural Resources, Energy, and Mines). Its creation moved the Forestry Directorate and the Park Service out from under the Ministry of Agriculture. It was eventually succeeded by MINAE (Ministry of Environment and Energy).

policies that incorporated social development into forest management. The agency, however, was chronically understaffed, under-equipped, and suffered from low morale. Concentration of staff in San Jose also meant that oversight of forestry activities was limited and corruption commonplace (Silva 2003).

Foresters employed by the DGF were responsible for a broad array of management activities including permitting, management of finances, oversight of resource extraction, forestry research, long-range planning, and formulation of industrial policy (Silva 2003, 103). As its responsibilities expanded, the ill-equipped agency acquired a reputation for being ineffective. Eventually a "general consensus developed … that the DGF had too many responsibilities and that consequently it was unable to accomplish any of them well" (Silva 2003, 103). The agency's responsibilities were gradually stripped away so that it could focus on control and oversight.

Privatizing the Labor Force

The DGF resisted inter-agency moves to decrease its authority, but further administrative restructuring facilitated the transition over the agency's objections. The Environment Law of 1995 (Law 7554) transformed MIRENEM into MINAE (the Ministry of Environment and Energy) which then unified forest management under a new administrative body called SINAC, the *Sistema Nacional de Areas de Conservación* (Navarro and Theil 2007). This re-organization allowed power relationships to be re-ordered and control to re-consolidated. By appointing a single person to head all three departments concerned with forest management (DGF, National Park Service, and Wildlife Service), SINAC consolidated control of forest

policy under the new market-oriented faction that had been ushered in by René Castro. While the move had the beneficial effect of dislodging entrenched extraction-oriented thinking, it simultaneously eliminated the institutional advocate for social development within forest policy.[58]

Responsibility for managing forestry finances was, at this point, transferred from the DGF to FONAFIFO, and the various trust funds were consolidated into a single account (FONAFIFO 2005). Eventually, the foresters themselves were transferred out of government employment, and forest management was organized into private *regencias* (individualized supervision of forest properties by independent foresters). The move was, of course, precipitated by Castro's market-oriented faction and motivated by the idea that private independent contracting of forest management services would create competition and place downward pressure on service costs. With its financing, control, and oversight responsibilities effectively privatized, the DGF was a mere shell of an organization. It was eliminated entirely after passage of the 1996 Forest Law (Law 7575) (Silva 2003). At this point, forest policy took "a decidedly more market-friendly tack where private sector timber production was concerned" (Silva 2003, 105). As Silva explains, "[c]ommand and control were out; liberalizing and privatizing permitting, extraction, and transportation were in" (2003, 105).

One of the more significant effects of the DGF's demise was on the conduct of forestry work. Under the *regencia* system, professional forestry engineers operate as

58 N.B. extraction and social development are not necessarily conjoined. A common misconception is that social development comes at the cost of environmental conservation. In actuality, important conservation measures can be taken alongside more equitable development strategies.

independent contractors in the private sector. *Regentes forestales*, or "forestry regents", as they are called, are responsible for the on-the-ground implementation of most aspects of forest management in Costa Rica, including conservation under the PSA. They are trained at one of two technical institutes and then licensed by their professional association, the *Colegio de Ingenieros Agrónomos* or Institute of Agricultural Engineers. They are not employed by the government or FONAFIFO, but rather are paid directly by their client landowners (Navarro and Theil 2007). Apart from the submission of prepared PSA applications and the occasional inspection, they have little contact with official authorities. This decentralization has created a private industry of professional foresters that operates independently from most government functions (Silva 2003).

The idea behind the *regente* system was that it would "free public sector personnel to concentrate on inspection and oversight [of *regentes*] instead of on the permitting process [itself]" and, thus, "eliminate opportunities for the corruption of public officials" (Silva 2003, 105). By removing their authority to issue management permits, officials would (theoretically) be more honest in their compliance inspections, as opportunities for bribes and kickbacks would be reduced. *Regentes* are supposedly unable to accept such temptations, since they are subject to inspection. As Navarro and Theil (2007, 19) suggest, however, the verification system is understaffed and inadequately financed. Additionally, the compensation methods of the private system have introduced a serious conflict of interest, as *regentes* are paid only when they attest that their client landowners are compliant with the management plans outlined in their PSA contracts (Alice, interview, 3 Nov 2011). Obviously, the integrity of the system is a matter of accountability, not an

issue of whether forest managers are publicly or privately employed. Nevertheless, the ill-repute of DGF foresters contributed to the industry's ultimate privatization.

A stronger explanation of the effort to move foresters out of government employ is that it would "free central office personnel to devote more time to agenda setting, planning, and policy formulation", which, under current administration, has meant pursuit of "cutting-edge market-oriented strategies to fund biodiversity conservation" (Silva 2003, 110). Beyond accountability and policy innovation, however, privatization of the forestry profession was also presumed to increase efficiency, as *regentes* would be required to compete for clients and, thus, drive down costs. While some *regentes* indicate that this has begun to occur (Valenciano, interview, 7 Feb 2012; Zuñiga, interview, 30 Jan 2012), the benefits of the competitive system have not been evenly distributed. As I will show, the result has primarily been lower per-hectare enrollment costs for large landowners, not across-the-board lower rates for all participants.

Operation of the PSA

Landowners wishing to do any kind of forestry-related activity must contract a licensed *regente* to prepare a management plan. These plans are legally required in all circumstances for extractive activities (timber production, agroforestry, sustainable forest management) and for non-extractive activities (forest regeneration or conservation) if they are to be supported by the PSA.

In order to participate in the PSA, a landowner must present an application to FONAFIFO consisting of a management plan and other supporting documents (such

as land title or documentation of secure possession, proof of payment of taxes, and evidence of good standing with the national insurance program) (Pagiola 2008).[59] *Regentes* are technically only required for preparation of the management plan and annual inspections, though they typically assist in the entire application process. Landowners contract *regente* services on the private market and compensate them through a percentage of the payments received from PSA enrollment (figure 6.1).

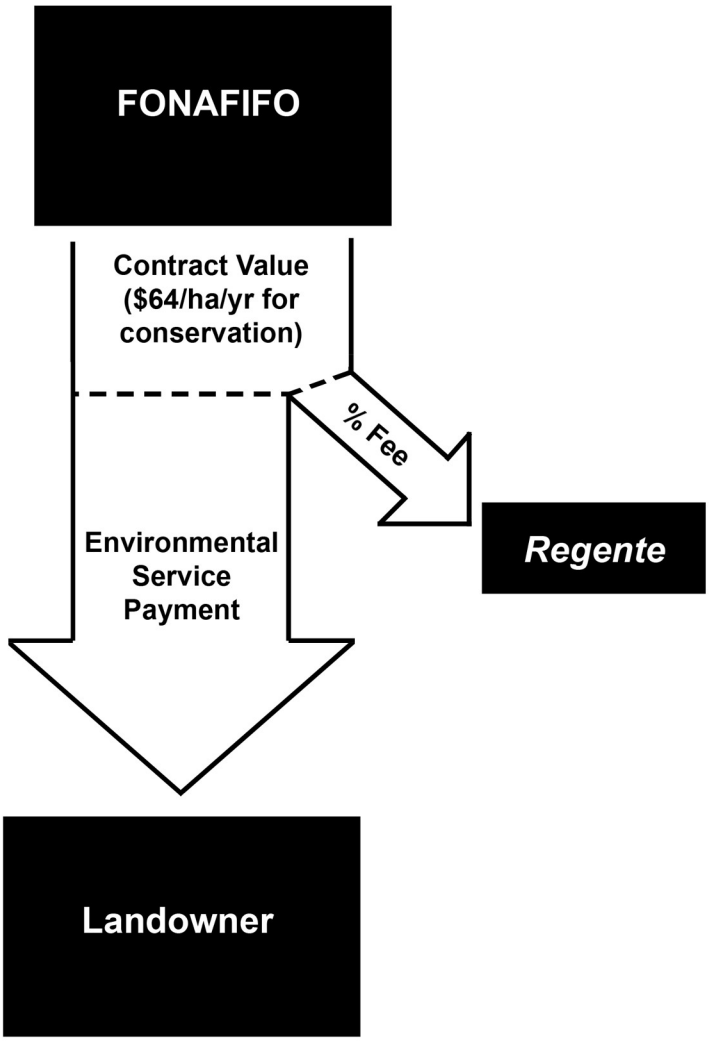


Figure 6.1: Payment Scheme

59 Prior to 2003, the application process had been handled by SINAC (Pagiola 2008), but was transferred to FONAFIFO due to that agency's reputation for efficient management (Platais, interview, 23 Feb 2012). Additionally, aspects such as evidence of good standing with the national insurance program are now checked directly by FONAFIFO and are not required in the application.

Independent Contractors

While some *regentes* work as salaried staff for non-governmental organizations or cooperatives, most are independent contractors. The rate that independent *regentes* are paid is agreed upon with each of their client landowners and set in a contract. Typically, this is between 10 and 12% of the annual PSA payment (Gonzales, interview, 14 Feb 2012; see figure 6.2), but the percentage rate is highly contingent upon the size of the land enrolled. The smallest landowners are frequently charged upwards of 18% (Zuñiga, interview, 30 Jan 2012).

If the application is accepted and the land is enrolled in the PSA, the landowner must manage the land according to the *regente*'s plan in order to receive payment. Routine inspections are carried out by the *regente* to ensure that the contract is being followed, and spot checks are performed by FONAFIFO to ensure the integrity of *regente* reports. An illustrated overview of the entire PSA contracting process is presented in Appendix 4.

Legally, *regente* fees are limited to 18% of the environmental service payment received by their client landowners. The rate that is charged in practice is typically determined by contract size, contract modality, and ease of site access (Valenciano, interview, 7 Feb 2012), all factors that affect the amount of labor required on the *regente*'s behalf. Significantly, the government plays almost no role in regulating these agreements to ensure just outcomes. The 18% limit is loosely enforced, and poorly informed landowners are occasionally charged above that rate (Confidential

Modality	Term	Annual per-hectare payment to landowner	Per-hectare *regente* fee at 10%	Per-hectare *regente* fee at 12%
Conservation (*Protección de Bosque*)	10 years	$64	$6.40	$7.68
Conservation in "conservation gaps" (*Protección de Bosque en Vacíos de Conservación*)	10 years	$75	$7.50	$9.00
Conservation of Hydrological Resources (*Protección de Recurso Hídrico*)	10 years	$80	$8.00	$9.60
Natural Regeneration (*Regeneración Natural*)	10 years	$41	$4.10	$4.92
Reforestation (*Reforestación*)	5 years	$196 note: payments may be front-loaded	$19.60 note: payments may be front-loaded	$23.52 note: payments may be front-loaded
Reforestation with Native Species (*Reforestación con Especies Nativas*)	5 years	$294 note: payments may be front-loaded	$29.40 note: payments may be front-loaded	$35.28 note: payments may be front-loaded
Forest Management (*Manejo de Bosque*)	10 years	$50	$5.00	$6.00
Agroforestry (*Agroforestal*)	3 years	$1.30 / tree note: payments not made per hectare	$0.13 / tree note: payments not made per hectare	$0.16 / tree note: payments not made per hectare
Agroforestry with Native Species (*Agroforestal con Especies Nativas*)	3 years	$1.95 / tree note: payments not made per hectare	$0.20 / tree note: payments not made per hectare	$0.23 / tree note: payments not made per hectare

Figure 6.2: Payments and Fees
(derived from Decreto-37660, 2013)

Informant #1, interview, Jan 2012). One PSA official even acknowledged being aware of contracts set at rates as high as 50% (Confidential Informant #2, interview, Feb 2012). Those that are charged illegally high rates are almost exclusively the

smallest landowners. This occurs because, on the smallest contracts, the fee is not great enough below the 18% limit to generate a living wage for the *regente* (Zuñiga, interview, 30 Jan 2012).

While Costa Rican law does specify minimum wages for private industry (Decree 37784-MTSS), these are of little relevance to self-employed independent contractors like *regentes*.[60] It is up to *regentes* themselves to decide the least they are willing to accept. According to one active *regente*, the smallest viable conservation contract (without exceeding the 18% limit) is 30 hectares (Zuñiga, interview, 30 Jan 2012).[61] The administrative expenses of contracts smaller than that simply cannot be justified without charging more than the limit. While the PSA officially allows contracts "from one hectare onward" (FONAFIFO 2005, 40), contracts smaller than 30 hectares and below 18% will not generate a wage great enough to sustain the *regente*'s livelihood. The effect is that the smallest owners are excluded entirely or illegally charged more than 18%. Only when the property is considerably larger (and, thus, the contract value is considerably high), is there room for competition.

Despite the exclusion of the smallest landowners that has resulted from the privatization and deregulation of forestry work, the removal of government safeguards, in this instance, was not viewed as placing a vulnerable population at risk. Rather, it was interpreted as freeing the labor force into a dynamic market

60 The *Colegio de Ingenieros Agrónomos* further sets a guideline professional wage of ₡20,000/hr (about $40/hr) that *regentes* should earn (Colegio 2011). As it is an official "contact hour" rate (like that a lawyer would charge), however, it also bears little correspondence to actual earned wages.

61 Note that the cost calculations are different for other modalities (i.e. agroforestry and reforestation) due to differences in the management plans and in terms of productivity – modalities that produce timber obviously generate a return from the eventual timber sale.

where competition would drive down service fees and ultimately benefit landowners. It is based on the assumption that competition will compel regentes to charge the lowest amount possible in delivering the services required of them.

Competition

If the objective of privatizing forestry work was to reduce *regente* compensation through competitive contracting, there is evidence to suggest that it has "succeeded". At the start of the program, most *regentes* charged a standard across-the-board rate of 18% for forest management planning (Ewing, interview, 13 Jan 2012). This was a matter of convention, as most were unsure of what it would cost them to provide the service, and the mandated maximum became "a sort of *de facto* standard" (Pagiola, interview, 23 Feb 2012). As the program progressed, however, *regentes* began competing for the more lucrative contracts, and rates have fallen as low as 6 or 8% in some cases (Valenciano, interview, 7 Feb 2012; Zuñiga, interview, 30 Jan 2012).

The mechanism by which this occurs relates to the coercive laws of competition. While these theories were formulated around the traditional production of goods, with competition through productivity-raising technological innovation, they are equally applicable to the provision of services, with competition through cost-saving changes to practice. In the case of PSA contracting, *regentes* are compelled to lower rates and cut costs in order to obtain contracts and stay in business. Constrained by the threat of losing market share to rivals, they must set aside social and environmental motivations and pursue economic efficiency. Through an iterative process of downward bidding, the price stabilizes at the lowest possible rate, favoring those *regentes* that are able to deliver services in the cheapest way. According to the

neoliberal orthodoxy that instated this competitive system, without competition "rational" profit-maximizing agents would conceal information about the "true cost" of their services and continue to charge unnecessarily high rates. Competition is the only way, dogma suggests, to align innate self-interest with downward pricing, reveal the true cost of *regente* services, and eliminate "waste" in overcompensation. Indeed, lower *regente* fees are celebrated as a triumph of the free-market system, in that *regente* compensation has stabilized at the most "efficient" levels.

There are, of course, obvious benefits associated with the apparent decline in *regente* rates; lower fees for landowners participating in the program means a greater share of the budget is being used to generate "ecosystem services", and less for program administration. Additionally, increased net-payments to landowners are arguably contributing to the enhanced social well-being of local communities. Unfortunately, this assessment does not fully appreciate the justice implications of the declining rates. In fact, closer examination reveals that competition has not caused the cost of participation to decline evenly for all involved. As I've indicated already, the smallest landowners, whose contracts are far less lucrative, are still charged upwards of 18% or more (Zuñiga, interview, 30 Jan 2012; Confidential Informant #1, interview, Jan 2012; Confidential Informant #2, interview, Feb 2012).[62] Competitive contracting, in other words, has created a differentiated fee schedule that disproportionately benefits the wealthier larger landowners, thus exacerbating existing inequities.

62 This information comes from two experienced *regentes* and a PSA official with detailed knowledge of contracting practices.

Uneven Benefits

The reason for the uneven decline of *regente* rates concerns the cost of management planning. As would be expected, it costs more to prepare a large contract than it does to prepare a small one. However, as there are many fixed-costs associated with the process (Miranda et al. 2003), large contracts are only marginally more expensive to prepare (figure 6.3). This means that the *per-hectare cost* of preparing a large contract can actually be far lower than it is for a small one. Considering that a *regente* must do the same paperwork, the same field visits, and the same billing and accounting procedures, regardless of contract size, it matters rather little (in terms of cost) if the contract is for 30 hectares or 250.[63] However, since payout is a function of contract size (i.e. *regentes* receive a percentage of the per-hectare payments made to their client landowners), this makes large contracts vastly more lucrative.

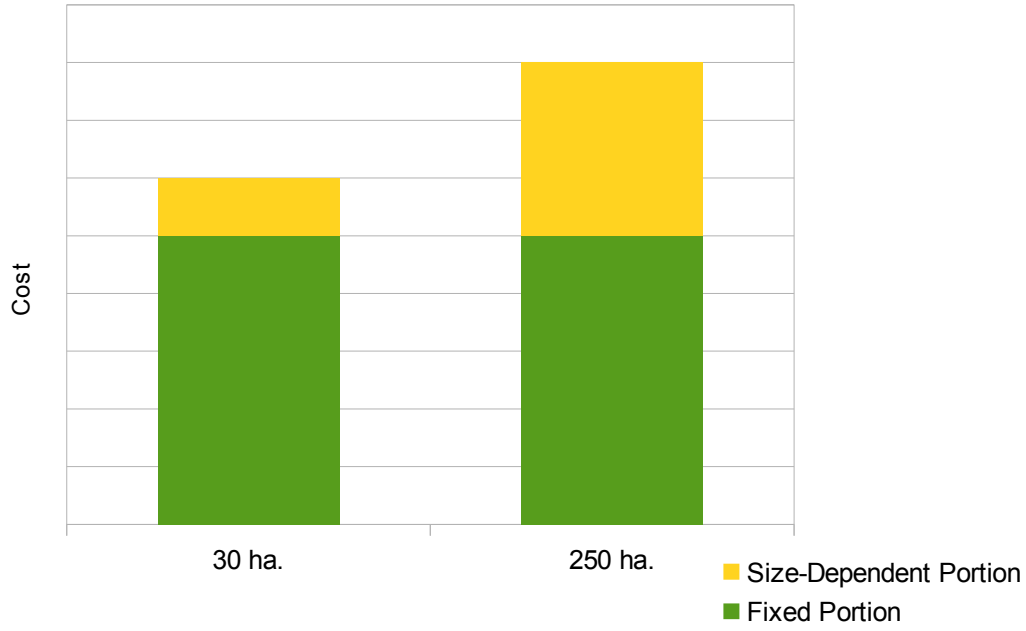


Figure 6.3: Cost of Contract Preparation

63 Certainly, inspections of larger properties require greater time, but the costs of such field visits are overwhelmingly dictated by other factors – travel to a 30 hectare site may be no less expensive than travel to a 250 hectare site, and administrative procedures may be identical (Zuñiga, interview, 30 Jan 2012).

At the current payment rate of $64/ha/yr, the value (to the landowner) of a 250 hectare conservation contract is $16,000/yr, minus *regente* fees. Likewise, a 30 hectare contract is worth $1920/yr, minus fees. With only marginally more work required for the large contract that carries a vastly higher payout, there is obviously far greater potential for the *regente* to profit, as well as far greater potential for savings through *regente* competition.

Assuming that the *regente* is entitled to a living wage, there is a certain minimum rate that must be charged for each contract, given the particular level of effort required. If a *regente* must budget, for example, one week per year to fulfill the responsibilities of a 30 hectare contract,[64] the most that can (legally) be taken home for that week of work is 18% of $1920, or about $345. However, on a 250 hectare contract, an equivalent wage of $345/wk can be derived from a fee as low as 6.5%, even if such a larger contract would require a threefold time commitment (i.e. $345 x 3 weeks / $16k). This means that a *regente* can offer far lower rates to larger landowners and still generate a living wage.

Regentes will compete for 250 hectare contracts because there is great potential for profit even if they must significantly lower fees. On the other hand, few will compete for a 30 hectare contract because there is little room for negotiation, given that they are unable to earn a living wage at rates much below the maximum 18% fee.[65] The

64 Note that, in practice, the work a *regente* is far less compartmentalized. *Regentes* work on a portfolio of contracts simultaneously, and differing levels of attention are required at different stages in the contract cycle (e.g. when soliciting clients, when preparing the initial application, and when conducting the annual inspection). Nevertheless, such time budgeting can be illustrative, and some *regentes* do, indeed, budget their time in this manner.

65 These estimations of contract preparation expenses are for PSA contracts submitted under the

result is a two-tiered fee schedule, affirming Silva's assertion that "the *regente* system privileges larger landowners over smallholders and poor peasants" (2003, 112). Competition has clearly given a comparative advantage to larger, wealthier landowners and is, thus, contributing to an expansion of wealth disparity.

Efficiency

To some, however, the uneven decline of *regente* rates is not a pressing concern and merely reflects the "true cost" of delivering ecosystem services on a case-by-case basis. Pagiola et al., writing for the World Bank, for example, suggest that payments for ecosystem services "was conceptualized and undertaken as a mechanism to improve the efficiency of natural resource management, and not as a mechanism for poverty reduction" (2005, 239).[66] Under this reasoning, the PSA should be concerned with efficiency in delivering ecosystem services, rather than equity in *regente* fees. A high-level consultant for FONAFIFO, for example, dismissed the importance of ensuring equitable rates for small landowners, mincing no words in saying that "larger landowners … are the ones who are more suitable for these type of payments, and since Costa Rica wants [to maximize] environmental services, I don't see any difference to pay them" (Confidential Informant #2, interview, Feb 2012). In other words, if larger landowners can deliver greater services at a lower cost, the PSA can maximize its conservation outcomes by providing a competitive advantage to them. As Porras explains, this perspective is based on a belief that

conservation modality. Management plans for other modalities, e.g. reforestation and forest management, are far more complex and require entirely different calculations. Given that my primary focus is on conservation through the PSA (and that upwards of 90% of contracts are under the conservation modality), I have not provided analysis of other modalities here.

66 Importantly, as Miranda et al. indicate, this was not the view of the program's architects; "from the outset the state and various social organisations assumed [the PSA] would contribute to rural poverty alleviation" (2003, i).

"[l]arge properties managed with a shrewd business perspective will always present better economies of scale than small, fragmented individual farms" (2010, 14). The efficiency gains from favoring larger landowners are, thus, from this perspective, "economically and environmentally justifiable" (Porras 2010, 14-15).

In recognition that such a concern for efficiency problematically side-steps issues of equity, Chomitz et al. (also writing for the World Bank) identify an "alternative view of equity" (1999, 165) that excuses uneven per-hectare compensation. This view understands equity in terms of compensating *all* landowners who provide services "to some degree" (Chomitz et al. 1999, 165). Noting that budget constraints have prevented universal enrollment of landowners wishing to participate in the PSA, this view shifts the focus onto uneven enrollment and away from uneven rates – indeed, it sees no contradiction in suggesting that "landowners who provide more services should get higher payments" (Chomitz et al. 1999, 165). If large contracts offer greater conservation at lowers costs per hectare, then uneven compensation is justified. While not explicitly endorsing this "alternative view", Chomitz et al. (1999) have offered a framing of justice that excuses the advantage that large landowners receive based on their more "efficient" delivery of services.

The "Cuota" – Vestige of a Bygone Era

Despite the rise of competition in forestry work, there is one important mechanism for non-competitive contracting that remains in place, the *cuota*. *Cuotas* are designated numbers of hectares issued by FONAFIFO to organizations for guaranteed enrollment of landowners under a particular PSA modality (i.e. conservation, "reforestation", agroforestry, etc). While there has been a sharp decline

in their use in recent recent years, contracting *cuotas* are issued to ensure particular activities and particular actors are able to be sustained (Segleau, interview, 16 Jan 2012). There are several reasons why they exist. First, organizations have lobbied for *cuotas* because they ensure a reliable budget for the their permanent staff, including salaried *regentes*. Second, industry groups (especially timber producers) insist on *cuotas* because they protect an industry that would have otherwise likely been displaced to other regions of the world. And third, they ease the responsibilities of FONAFIFO by outsourcing a some of the application review from the central authority to local actors.

Cuotas were used quite frequently in the early years of the PSA when organizations played a central role in promoting the program and recruiting participants. They were issued to select organizations that were then expected to enroll new landowners (closely linked to the "group contracting" that is explained in detail below). As enrollment demand began to outstrip available financing, however, recruitment was no longer necessary and the role of organizations became less important (at least from the perspective of the managing authorities). More than this, however, the *cuota* came to be seen as a barrier to progress in the promotion of competition and, thus, began to be phased out. Today, the only *cuotas* that remain are those that are protected by strong institutional advocates, such as the *Oficina Nacional Forestal* (ONF) which holds two seats on the five member board of FONAFIFO (FONAFIFO 2005). The future of even these, however, remains uncertain as the market gains prominence (Segleau, interview, 16 Jan 2012).

The Effect of Competition – Profit, "Efficiency", and Self-Interest

In addition to the uneven benefits derived by larger landowners, competitive contracting is also fostering several rather undesirable and more fundamental changes to environmental governance in Costa Rica. These include the erosion of alternative motivations, advancement of the profit imperative, and the intensification of self-interested decision-making. Empirical evidence of these trends are outlined here.

Edging out alternative motivations

An early mechanism for promoting participation in the PSA program was to have established local NGOs recruit landowners and assist them with application and enrollment. One such organization selected to pilot NGO-driven recruitment was ASANA (*Asociación Amigos de la Naturaleza del Pacífico Central y Sur*), located near Dominical on the country's central Pacific coast. ASANA employed a salaried *regente* to draft management plans and enroll landowning community members in the PSA (Ewing, interview, 16 Jan 2012). The organization charged an 18% rate, as most independent *regentes* and organizations did in the early days, using the revenues to cover its expenses and pay its *regente* (Ewing, interview, 16 Jan 2012). Any surplus was cycled back into the organization to carry out its conservation mission and support community development activities (e.g. establishment of the "Path of the Tapir" biological corridor, development of fresh water resources, sea turtle conservation, and environmental education).

By the time the first round of contracts came up for renewal, however, the PSA contracting landscape had changed dramatically: many more *regentes* had entered the contracting business, landowner demand for participation far outstripped program

resources, and independent *regentes* were offering significantly discounted rates (at least to those with the most lucrative contracts). Moreover, FONAFIFO decided to remove the incentives that encouraged NGO involvement in contracting under the conservation modality. *Cuotas* that lacked an institutional advocate like the ONF were phased out, and NGOs were faced with competition on the open market. As Jack Ewing (an officer and founding member of ASANA) explained, "FONAFIFO changed all the rules … and we had to compete directly with foresters" (Ewing, interview, 16 Jan 2012). Under these conditions ASANA found it difficult to keep a *regente* on staff, as the *regentes* could earn more money by contracting independently. Ewing explained, "no forester would want to work for us if we were taking what [they] normally took for themselves" (Ewing, interview, 16 Jan 2012). Organizations like ASANA were effectively priced out of the market. In his words, the changes "pretty much ended the program for organizations like ASANA" (Ewing, interview, 16 Jan 2012).

Ostensibly, from the perspective of an outside party, this was a positive development, as lowered rates from competition signify increasing efficiency. On the other hand, the decline of NGO involvement represents a more fundamental (and troubling) shift in the program's operation. Beyond the uneven distribution of benefits that I already explained above, the underlying motivation for PSA contracting was altered when the emphasis shifted from NGOs to individual competitive *regentes*. ASANA had operated under an ecological mandate and was promoting the PSA because it wanted to expand conservation (Ewing, interview, 16 Jan 2012). Independent *regentes*, on the other hand, are motivated by an entirely different set of objectives. Certainly many (if not all) *regentes* are gratified by the environmental outcomes of their

activities, but they are agents within a framework that compels the pursuit of profit maximization. As the margin between profitability and viability narrows, *regentes* cannot afford to take insufficiently lucrative contracts, regardless of their social contribution or ecological significance. As one private *regente* explains, "it's business" and, if a *regente* is going to "keep his head above the water", he must take decisions that sustain the business (Zuñiga, interview, 30 Jan 2012). In other words, *regentes* are constrained by program structure and forced to base contracting decisions upon their impact to the bottom line.

As organizations like ASANA are edged out of PSA recruitment, the reason for contracting becomes oriented towards the profit motive. The only entities that remain – indeed the only entities that are able to survive – are the ones that are driven to behave as profit maximizing businesses. Competition, in other words, leads to a broader, more fundamental shift towards the profit imperative and away from the various social and ecological imperatives of non-governmental organizations. *Regentes* themselves – even if they desire to be involved in PSA contracting for altruistic reasons – are compelled by circumstances to engage in the sort of competitive contracting that favors the elite. There is little margin for alternative motivations.

Undermining resistance

Other organizations, such as ASIREA (*Asociación para el Desarrollo Sostenible de la Región Atlántica*), based in *Guápiles de Limón* in northeastern Costa Rica, on the other hand, are still hanging on, providing a community service in forest management. ASIREA is able to do this because it still receives an annual *cuota*

from FONAFIFO, ensuring a number of contracts for which they are not required to compete (Segleau, interview, 16 Jan 2012). ASIREA is, however, by no means secure. During my field visit, the organization was in crisis, dealing with a dire financial situation. At the time, they were making a plea to donors so that they could close a budget shortfall and sustain their community forest development activities.

ASIREA is an unusual organization with relation to the PSA, in that they are heavily focused on the "reforestation" (i.e. plantation forestry) and agroforesty modalities. As Jane Segleau (the organization's Executive Director) explains, "ASIREA was first place … in agroforestry in the whole country" during the previous year (Segleau, interview, 16 Jan 2012). This is partly because the ONF (ultimately a timber production advocate) has guaranteed their *cuota* for these modalities, but it is also partly because management planning for reforestation and agroforestry is far more complex than conservation. Because of this complexity, such contracts are less size-dependent, and costs are more closely proportional to the size of the land being enrolled (Segleau, interview, 16 Jan 2012). This means that large reforestation and agroforestry contracts are not necessarily more lucrative (as they are in the case of the conservation modality). Since the opportunity for profit and/or savings on large lands is diminished, competition is less intense. In other words, ASIREA is not being as forcefully out-competed on the reforestation and agroforestry modalities by profit-oriented independent *regentes*. The revenues that ASIREA generates from these operations, and from its guaranteed *cuota*, enable it to hang on (even if only just) and continue to provide its services largely independent of the profit motive. Diminished competition allows ASIREA to pursue social and ecological imperatives, instead of just profit.

Despite the heavy reforestation and agroforestry focus, however, ASIREA is still involved in enrolling lands under the conservation modality – indeed, the vast majority of its contracts are for conservation (Segleau, interview, 16 Jan 2012). This stems, in large part, from the fact that there are far more landowners wishing to enroll under the conservation modality nationwide.[67] Significantly, the conservation contracts that ASIREA provides are comparatively smaller in size against the national average – as Segleau notes, "we are the organization that has had the most dedication to small farmers …we are famous for being an organization that really works with small farmers" (Segleau, interview, 16 Jan 2012). In fact, many of ASIREA's client landowners have been referred by *regentes* for whom the property is too small (Segleau, interview, 16 Jan 2012). When enrollment is not profitable, independent *regentes* simply pass clients along to ASIREA, which is less directly bound by the profit imperative. Stated plainly, ASIREA is "a non-profit so we are not into making money, we are into being sustainable financially" (Segleau, interview, 16 Jan 2012). ASIREA is able to do this because it is, in a sense, utilizing the profits it gains from the less competitive "reforestation" and agroforestry contracts to subsidize its small-scale conservation contracting services. Without ASIREA, small landowners in the region would lose a very important service provider that remains outside of the conventional logics of profit maximization. And, in Segleau's words, "if [ASIREA] stopped existing, it would mean all these farmers would not have access to the PSA" (Segleau, interview, 16 Jan 2012).

67 While the reason for this preference is complex, it can largely be explained by the opportunity costs for landowners. There is essentially zero opportunity cost to enrolling forested land under the conservation modality since forest conversion is banned. On the other hand, land that may be used for timber plantations and enrolled under the reforestation modality, may alternatively be used for agriculture or ranching. Thus, the opportunity cost of reforestation is equal to the foregone profit from those activities. The result is that landowners are far more eager to enroll under conservation than they are under reforestation.

Small landowner enrolled 2.5 hectares in the PSA through ASIREA
It is unusual for private *regentes* to contract with landowners that have even 10x this amount.

Given the uncertain future of the *cuota* and the increasing competition by independent *regentes*, however, it is unclear how much longer ASIREA will continue to operate. The organization may succumb to competitive forces, either by internalizing the competitive drive and contracting with larger landowners or by simply being priced out of the game. Steadfast, Segleau explained "we're not going to stop being ASIREA because other people are competing in that way" (Segleau, interview, 16 Jan 2012). "As long as we have enough money to survive each year", she added, the organization will continue to provide small landowners with access to the PSA (Segleau, interview, 16 Jan 2012). The stark reality, however, is that competition may simply make ASIREA's operations unviable.

Fostering self-interest

A third organization, ATAL, has also experienced setbacks related to the rise of competitive contracting.[68] Similar to the case with ASANA, ATAL has had difficulty retaining their salaried *regentes* due to the enhanced opportunity for personal gain derived from independent contracting (Confidential Informant #3, interview, Jan 2012). New *regentes* are often willing to work at lower-than-average rates, in order to establish their reputation and build their professional networks (Zuñiga, interview, 30 Jan 2012). Once they have secured a portfolio of contracts, however, they are able to more freely and directly compete in the contracting market. The experience of ATAL has been that their trained *regentes* eventually move on and enter the competitive independent system where they are able to make greater profit (Confidential Informant #3, interview, Jan 2012).

Recently, ATAL's *regente* left the organization under some rather contentious circumstances. ATAL had held several large PSA contracts with local landowners, which helped to sustain the organization's contracting program and support its other conservation and development activities. Since these contracts were registered in the *regente*'s name, however, he was able to retain these contracts when he left the organization (Confidential Informant #3, interview, Jan 2012). Now, instead of receiving a salary from the organization, the *regente* receives payment from the enrolled landowners directly – a considerably greater sum than his former salary, given the size of the properties. ATAL was left in a problematic situation because, without the revenues from their large contracts, their operations are severely under

68 "ATAL" is a pseudonym to protect the identify and reputation of those involved. Specific names and descriptive characteristics have been fictionalized to ensure anonymity.

funded. It is yet unclear whether matters will (or can) be settled through legal action.

By operating independently, the *regente* is deriving immense personal benefit, while the organization (and the community that depends on it) is being deprived of important resources. The transferal of these contracts from ATAL to the independent *regente* constitutes the transformation of shared development resources into private profit. Not only does the competitive contracting system enable this sort of self-interested behavior, it actually encourages it (on the grounds that the independent *regente* will be able to provide contracting services more efficiently and, thus, extend a limited budget). The system is designed to align (what is believed to be) the innate self-interest of *regentes* with the objective of maximizing ecosystem service provision. By encouraging the *regente* to seek profit within a system that requires competition, the cost of contract preparation may, as explained above, decline for *some* landowners wishing to participate. Doing so, however, actually fosters the very behavior presumed to be inherent.

Regentes are, actually, concerned with the social implications of their work, and they are motivated by altruistic factors. Nearly every *regente* with whom I spoke independently identified the social development benefits of the PSA, particularly with regard to small landowners (e.g. Alfaro, interview, 23 Jan 2012; Herrera, interview, 23 Jan 2012; Segleau, interview, 16 Jan 2012; Zuñiga, interview, 30 Jan 2012). Herrera, for example, referred to material improvements in participants' lives; "they are able to buy a motorcycle or car, or improve the path to their house. …or [they] can at least pay for *colectivos* [rural shared taxis] and get the [school] uniform for their family" (Herrera, interview, 23 Jan 2012). Alfaro, as well, explained that

many of these families "don't have very much money or not very much education … it's good to help them" through enrollment in the PSA (Alfaro, interview, 23 Jan 2012). Even a private *regente*, Igor Zuñiga, within a profit-driven firm, stressed the importance of working with small owners and expressed desire to provide economic assistance in the form of ecosystem service payments. However, he also explained that he would not be able to generate a living wage if he did so (Zuñiga, interview, 30 Jan 2012).[69] Rather than pursue social objectives, the *regente* must pursue economic efficiency in order to survive in the competitive system. They are not driven by an inherent self-interest to maximize personal gain; they are placed within a system that encourages, in fact demands, such behavior.

Zuñiga cannot be blamed for seeking profit and neglecting the smallest landowners. He must operate within the parameters of the program or place his livelihood at risk; he must submit to the coercive laws of competition. Self-interest is not inherent to his character, but rather encouraged by the system in which he operates. Behavior that is ordinarily admonished under prevailing social norms is promoted by these conditions. The competitive system, which requires profit maximization, is normalizing self-interest. Once it is socially acceptable (indeed economically preferable) to be self-interested, it becomes far easier to take a decision that is as seemingly asocial as swiping ATAL's contracts. Why wouldn't ATAL's *regente* keep hold of the contracts if they were in his name, he had labored to produce them, and they provided him with stability within a highly competitive system? Essentially, the competitive system is making such behavior permissible. It is in no way "natural"

69 The standard of living to which *regentes* are entitled is an entirely relevant question that warrants further exploration.

for individuals to act in self-interested ways: self-interest is encouraged by the very systems designed to harness it.

A Viable Alternative?

In order to address the problem of unevenly distributed benefits from competitive contracting, and the more fundamental changes to environmental governance that come along with it, *regente* compensation would need to be a function of something other than contract size – that is, *regentes* would need to be paid in some way other than by a percentage of the contract value. Removal of the incentive to favor large properties would allow *regentes* to make contracting decisions for reasons other than their effect on the bottom line. The assumption of those who favor the independent contractors model, however, is that only a competitive system can be efficient and that contracting based on more equitable flat-rates (regardless of contract size or location) would result in wasteful administration expenses.

This position derives from an oversimplified conception of human behavior which presumes *regentes* will charge as much as possible unless checked by competitive market forces. As McAfee suggests, however, "economically 'rational' behaviour aimed at individual gain is often less determinant than social obligations and communal norms" (2012, 118). This is certainly the case with Jane Segleau of ASIREA and another *regente*, Alejandro Alfaro, who explained that he continues to offer his services through a community development organization in spite of the fact that he could earn more drafting PSA contracts independently (Alfaro, interview, 23 Jan 2012). Relying on this sort of social responsibility, it is possible to envision a model that spreads enrollment fees across the population without compromising

regente performance or raising the overall cost of administration (lowered rates for small landowners could be offset by only marginal increases for large ones). In fact, such a model existed in Costa Rica until it was undermined by further neoliberalization that took the form of individualizing landowner participation. A form of collective participation, aimed at distributing costs, previously allowed small landowners to pool their resources and enter the program for a much lower fee.

Competition vs. Cooperation

Group Contracting through "Contratos Globales"

The *contratos globales*, or "global contracts", were developed early in the program's evolution as a form of group contracting intended to level transaction costs and make it no more expensive for small landowners to participate than it is for large ones.[70] They were developed in direct recognition of the high fixed costs of contract preparation and comparative disadvantage for small landowners (Pagiola et al. 2005). The idea was that landowners could pool their resources under a single contract, distribute *regente* fees across the group and, thus, reduce the per-hectare rate for all involved. This provided an entry point for disadvantaged individuals that would otherwise have found accessing the program (and its benefits) prohibitively expensive. In addition, grouping supported small owner participation by helping less-educated and poorer farmers to navigate complex application and management procedures (Zbinden and Lee 2005).

These contracts were typically coordinated by non-governmental organizations and

70 Note that these are not global in the sense that they are international or worldwide, they are simply "global" to the members of the group.

farmers' cooperatives, which grouped the landowners of local communities and assisted their PSA contract preparation. Many small landowners could band together in these groups to form larger contracts that would be more appealing to *regentes*. Benefiting from greater "economies of scale", *regentes* could then offer lower rates than they otherwise could to any single member of the group; it was an efficiency gain that did not require a competitive framework. A single contract was issued at the end of the process, with all members of the group agreeing to the terms of the inscribed management plan. Payments from the group's enrollment were then distributed proportionally to members according to the amount of land each held.

Initial uptake was high. The group contracting mechanism was instrumental in building a base of participating landowners. In the first year of the program, nearly 60% of program funds were disbursed to participants in these groups (Porras 2010). FONAFIFO relied on established conservation groups, agricultural associations, and community organizations to promote the PSA and recruit participants through these means. NGOs such as ASANA were issued *cuotas* for exactly this purpose. The use of the grouping mechanism was not only extensive in the beginning, it was touted by a broad range of actors as an important tool for integrating the poor. Bennett and Henninger (2008), for example, highlight the mechanism in their report to an international forum of legislators as a key strategy for distributing transaction costs so that the poor are not excluded. Even the World Bank supported group contracting (initially) by providing "training and technical support" to NGOs through the Ecomarkets project (World Bank 2007, 45-46). The mechanism, however, was met with several challenges, including how to handle instances of individual non-compliance and ownership change within the groups.

As designed, problems with single members could cause payment delays or even contract invalidation for the entire group (Porras 2010). Most often this occurred when group members wanted to sell their land or make changes to its status; outright breach of contract by members was unusual (Segleau, interview, 16 Jan 2012). When these problems occurred, however, the contract had to be re-written, suspending payments and incurring new expenses. On occasion, such incidents escalated to crisis point. ASANA, for example, was once accused of stealing payments from its group members on a contract that was undergoing one of these adjustments (Ewing, interview, 13 Jan 2012). The dispute was eventually resolved when the contract was restored (Ewing, interview, 13 Jan 2012), but issues such as this sealed the fate the *contratos globales*.

Individualization

A consensus emerged that the grouping mechanism was flawed, mainly in that it lacked dispute resolution procedures and the ability to handle individual ownership change (Ortiz, interview, 12 Dec 2011). In response to these problems, FONAFIFO revised the mechanism to culminate in individual contracts (Pagiola 2008) – the scale at which participating landowners cooperate was shifted downwards. As Edgar Ortiz (director of the *regente* training program at the *Instituto Tecnológico de Costa Rica*) explained, group contracts are no longer signed or managed by the coordinating NGO. NGOs "do the work with small landowners …, but at the moment of signing …, each individual landowner signs a contract" (Ortiz, interview, 12 Dec 2011). This, of course, provides a solution to the ownership change and partial compliance problems, but it also undermines the coherence of collective participation.

In effect, the "group" only exists during the recruitment stage. Once the NGO has found willing participants, individual management plans are drawn, and individual contracts are issued. These changes diminish the role of NGOs from coordinators of collective participation to the equivalent of an independent private *regente* – that is, NGOs no longer orchestrate communal action, they simply provide contracting services to disparate actors. Furthermore, the individual contracts mean that many of the fixed-costs of participation are replicated across the former group and transferred to each of its members; the *regente* must manage multiple sets of paperwork, have multiple billing and accounting ledgers, and arrange multiple individual inspections each year. This negates the efficiency gains from the greater economies of scale and results in "much smaller savings" (Pagiola 2008, 722) for the landowners who participate, further compounding the problem of large landowner advantage. In the competitive system, large landowners enjoy lower *regente* fees, so they can do quite well outside of these groups – indeed, they may even do better (Ewing, interview, 13 Jan 2012). The small owners, on the other hand, are confronted with higher rates outside of these groups and, thus, lose out in the shift from collective to individual participation.

Obviously, these changes to group contracting are far more significant than simple procedural modifications (i.e. they are more than a simple change to how contracts are issued). They effectively constitute the wholesale individualization of participation. In fact, the practice of grouping has changed so fundamentally that the head of PSA at FONAFIFO characterizes the *contratos globales* as having ended completely (Sánchez, interview, 15 Feb 2012). Indeed, the program's operations

manual, the annual document issued by FONAFIFO and MINAE that sets guidelines for the program, contains no reference to grouping after 2003 (FONFIFO 2003). Corresponding to this, there has been a marked shift from group to corporate participation over the first decade of the program's existence (figure 6.4; Porras 2010). It is clear that the changes to group contracting were not as much a fix to the administrative challenges of collective participation as they were an altogether abandonment of the mechanism.

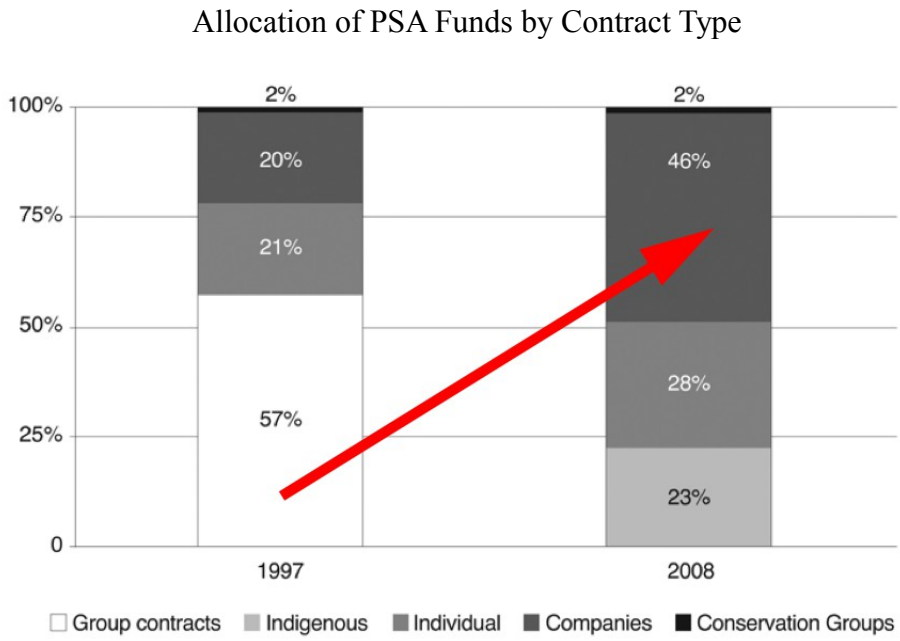


Figure 6.4 (adapted from Porras 2010).

Governance and The Indigenous Exception

While participation has been individualized for all ordinary contracts, it is important to note that collective *indigenous* participation currently remains. Further research would be required to evaluate how well these indigenous contracts function, but the fact that they still exist suggests that they have not suffered from the same problems

as the *contratos globales*. This is presumably a result of better governance. Unlike the *contratos globales* (which are managed by local, but external, non-governmental organizations), the indigenous contracts are managed internally by a tribal council that has considerable authority in matters of dispute resolution and compliance enforcement. The relatively weaker governance of external NGOs in the case of non-indigenous collective participation is almost certainly a contributing factor in the problems and ultimate failure of the mechanism. Given that the organizations that were involved in group contracting (e.g. conservation NGOs) were not, in the first place, community development organizations, they would have been ill equipped to manage matters of group conflict. A comparison of organizations previously involved in the *contratos globales* to the various tribes holding indigenous contracts could offer some insights into what is required for effective collective participation.[71]

The demise of group contracting, however, cannot be attributed entirely to ineffective governance. It is down to institutional neglect and the *laissez-faire* attitude of liberally-minded actors influential over program management. Few appreciated the need to actively foster and develop the mechanism. This is evident in a World Bank publication by Chomitz et al., for example, where the claim is made that a number of NGOs "spontaneously adopted" the role of project "bundlers" in the Costa Rican system (1999, 161). From this perspective, collective participation is something that spontaneously emerged to fill a need (in the sense of Hayek's spontaneous order premise), not something that required active support. In fact confidence among analysts that the provision of such needs would self-regulate appears to be so great

71 Which organizations had difficulty managing their groups, and which did so effectively? Were agricultural associations (which are more oriented towards managing community agreements) better at resolving disputes and preserving their group contracts than conservation organizations? And how do those compare with the success of indigenous groups?

that the decline of collective participation has gone largely unnoticed in the policy-oriented literature; reference to group contracting continues to be made well after it was abandoned in 2003 (e.g. Bennett and Henninger 2008; Pagiola et al. 2005; Sills et al. 2005; World Bank 2006; World Bank 2007).

Competition vs. Cooperation

The individualized version of "group" contracting that exists today – the version that has very little cost saving benefits for small landowners – still retains some important advantages. For example, organizations that assemble group applications often reach out to landowners that might otherwise lack the social capital or knowledge to get involved on their own. Even if organizations help smaller, poorer landowners join the PSA, however, the competitive system means that they receive diminished benefits – smaller landowners must still pay higher (sometimes illegally high) rates to their *regentes*. Without the ability to band together under a single contract, the fixed costs remain high and ensure lower net payments. This is particularly true when contracting must be done through a private independent *regente*, but it is also increasingly the case when contracting is facilitated by non-governmental organizations as well.

As Silva (2003) points out, organizations that offer contracting services are threatened with diminishing revenue due to competition by profit-driven independent *regentes*. This is certainly the case for ASIREA, as explained above. Where budgets depend on funds generated by PSA contracting services, organizations "have a strong incentive to ignore smallholding, poor peasants" (Silva 2003, 113). Since these organizations "get more revenue per staff member by accepting large projects" (Silva

2003, 113), some of the organizations that formerly protected small landowner interests have been pulled into the business of competitive contracting, making them the virtual equivalent of private profit-driven institutions operating in a market-based system. With the elimination of grouping, small landowners have lost not only their ability to defray and distribute administrative costs of participating in the PSA, they have lost the support of the institutions that assisted their participation as those institutions are drawn into the competitive system. The administrators of forest policy have made "a clear choice in favor of market-oriented conservation and reforestation instead of support for community development or cooperative behavior" (Silva 2003, 113).

The particular scale at which the tensions between competition and cooperation are mediated is, of course, by no means arbitrary. It is deliberately produced to achieve a particular economic vision and maintain a particular balance of power. As Smith points out, "the demarcation of scale [is] absolutely central to the processes and politics of uneven geographical development" (2003, 229). The decision to individualize both participation and contracting is a highly political one that, I have shown, clearly favors the largest and wealthiest landowners. During the recent transformation of Costa Rica's forestry industry, the scale at which the various agents involved in the PSA are brought into competition (or encouraged to cooperate) has been shifted to achieve specific political and economic ends. In this case, it has been the re-organization of the program according to neoliberal ideals that elevate economic efficiency over social or environmental responsibility.

Conclusion

The purpose of this chapter has been to illuminate the social and ecological implications of two scalar shifts in mediating between competition and cooperation in PSA contracting – one concerning the individualization of forestry work though the creation of the competitive *regencia* system, and one concerning the individualization of landowner participation through the removal of cooperative group contracting. As a conceptual basis, I drew upon Marxist ideas of the coercive laws of competition and Neil Smith's (2003) theorization of the social production of scale. As such, I have interpreted these shifts in Costa Rican forest policy as highly political moves that deliberately produce a competitive environment and place economic efficiency ahead of social and environmental responsibility. I have also linked these shifts to the emergence of new social relations that are governed by the coercive laws of competition, and I have identified how they are driving the pursuit of profit-maximization and individual accumulation, instead of cooperative management in the interest of distributed benefits.

As I showed, a series of moves initiated by a new market-oriented faction within the Ministry of Environment during the 1990s led to the privatization of forestry work and the erosion of "social forestry" policies. While most historical accounts interpret this as the abandonment of an ineffective and corrupt centralized agency, I view it as a politically motivated and deliberate upheaval of existing power relations. These moves did not simply replace a failing agency with a more effective and better managed one, they re-shuffled power structures by altering the scale at which the tensions between competition and cooperation are mediated. Placing individual foresters in direct competition with one another introduces the coercive laws of

competition, which usher in a very specific set of economic relations. The introduction of competition was not simply a neutral means of promoting economic efficiency, it was the establishment of a system that delivers benefits to a particular set of people.

In contrast to the way that the industry operated previously, the profit imperative is now central to the regulation of Costa Rican forestry. Today oversight of forest management is conducted privately, with FONAFIFO performing only limited independent inspections. Where professional foresters were once employed as salaried government regulators under the DGF, *regentes* are now contracted on a private market and paid directly by their client landowners. The government plays almost no role in these agreements, and, instead, *regentes* are encouraged to pursue maximum profit as independent contractors (the assumption being that this will achieve efficiency through competitive downward bidding for the most lucrative contracts). Indeed, *regentes* within this competitive system are compelled to lower rates (where possible) or else risk loss of the contract to a rival. This is, of course, was the intended goal of introducing competition and is now touted as an important success of the institutional re-organization.

My objective, however, has been to demonstrate how this has resulted in an uneven decline in rates. As I explained, this is due to the fact that lower rates are only possible on certain contracts. Since *regente* pay is a function of contract size, while the costs are largely fixed, there is far greater potential for profit on the largest contracts. In other words, the *regente*'s expenses in management-planning rise more slowly with increasing contract sizes than does the potential payout. This means that

regentes will compete quite fiercely to obtain the largest, most lucrative contracts, and also that they are able offer greater discounts in order to attract those large landowners. At the same time, the smaller, less lucrative contracts receive very little competition, or may even be excluded entirely if the cost of the management plan is greater than the *regente*'s maximum (legal) 18% rate. The result is that the largest landowners receive the lowest rates and, thus, greatest net payments from enrolling their land in the PSA.

As I explained above, *regentes* have no innate or political desire to favor the larger wealthier landowners – indeed, they frequently reminded me of the important social development benefits that the PSA can provide to the poor. However, given the design of the system, they are forced to take decisions that provide large landowners with an advantage. The coercive laws of competition compel *regentes* to set aside altruistic social and ecological motivations to offer discounted rates on the contracts that will secure their livelihoods.

Further to this uneven decline in rates, the competitive system gives rise to other undesirable consequences by edging out alternative motivations, undermining resistance, and fostering self-interest. Each of these, I showed, was the result of organizations being priced out of the PSA contracting market. Whether they lost the institutional supports that guaranteed their operations, were drawn into the business of competitive contracting, or were simply out-competed, organizations that operated outside of the profit imperative are largely no longer involved in enrolling landowners in the program. Many of those that remain have become the virtual equivalent of private independent *regentes*, offering contracting services in the most

lucrative cases to bolster institutional budgets. By contrast, in cases where there are non-competitive conditions, such as where *cuotas* still exist, *regentes* are not as immediately bound by the profit imperative. In the case of ASIREA, for example, guaranteed *cuotas* and reduced competition under other modalities have enabled to the organization to continue offering contracting-services to the smallest of small-landowners.

Conditions that formerly enabled organizations to assist small landowners overcome their competitive disadvantage, I showed, were eliminated in the other scalar shift that I dealt with in this chapter. A further re-negotiation of the tensions between competition and cooperation occurred in the de-collectivization of landowner participation. Until FOANFIFO acted to reverse measures, small landowners were able to pool their resources under a single contract, reduce the individual fixed-costs of participation, and obtain lower rates for all members of the group, enabling small-owner access to the PSA on equal footing with larger landowners.

Group contracting had been developed specifically to help small landowners with the high fixed-costs of participation by cooperating at a particular scale. As such, the revision of protocols to require each landowner to sign a contract independently is a highly political act, particularly since it was taken without consideration of how small landowners would cope. Contrary to the way the situation is typically characterized, removal of the grouping mechanism is not simply a technical fix to a technical (and apolitical) problem. Grouping certainly did have flaws, but these were not as much solved as the mechanism itself was abandoned. This completely shifted who is able to participate and, ultimately, who stands to gain from the PSA as a

whole. Revised to culminate in individual contracts, grouping is now little more than a temporary recruitment tool applied by development organizations. Since landowners must sign contracts separately, the efficiency gains from larger economies of scale are negated, fixed-costs are replicated across the population, and small landowners are left to compete individually for *regente* services on a open market. The result is higher *regente* rates and lower net-payments, relative to larger landowners.

The larger the amount of land an owner controls, the greater advantage he or she has in the PSA. The competitive system means that individual small owners cannot access the PSA without paying excessively high rates. Nominally, competition provides efficiency gains, but this can only be seen to be beneficial if who may access the PSA is completely ignored; average *regente* rates have declined, but this has been achieved by encouraging *regentes* to work with those landowners for whom discounts are possible. Furthermore, the scalar shift that removed cooperative participation compounded the problem of large landowner advantage. Cooperation has been supplanted by competition, elevating economic efficiency, profit maximization, and accumulation over social or environmental responsibility.

Beyond the immediate implications for Costa Rica, however, the neoliberalization that has taken root here speaks to the conceptual ground I staked out in earlier chapters. What we see in the shift from cooperative to competitive Costa Rican forest management is an ideologically-motivated disregard for issues of social equity and justice, which I have suggested is a marker of neoliberal activity and an effective means of training the critical gaze on (partial and ever-adapting) expressions of

neoliberalization. Utilizing a concern for justice in this way helps to identify the junctures where neoliberal policies push through ostensibly non-neoliberal practices. If conceptual emphasis had been placed on evaluating the "neoliberalness" of policy changes against a baseline conception of how neoliberalism *ought* to look, actually-existing elements might have been missed – after all, Costa Rica's PSA does not correspond that well to the idealized model and, thus, many of its neoliberal characteristics are not often readily apparent. My treatment of the concepts, on the other hand, places emphasis on the ways neoliberalism has taken root *despite* all of its apparent contradictions. In contrast to the growing literature focused on the ways PES deviates from neoliberal doctrine, an initial focus on social justice serves to illuminate the places where neoliberalization is likely to be operating.

CHAPTER VII

Neoliberalization of Property Ownership

Costa Rica's segment of the Pan-American Highway passes through diverse landscapes. A journey along it offers views of lands under many different ownership regimes, including rural small-holdings, corporate plantations, indigenous reserves, cooperatively-managed farms, state-owned parks and protected areas, privately owned nature reserves, and foreign-owned vacation homes, as well as urban landlessness and many others. Such views, however, are limited. A fuller picture of the social relations that constitute this range of land uses and ownership patterns requires closer examination and more immediate contact with the people who live there. And a more detailed view is necessary for understanding what, for example, "private property" actually means, in terms of permissible practices and rights of access.

Figure 7.1: Along the Pan-American Highway

On one such journey along this route, I had a particularly revealing encounter that highlighted key differences between my own Euro-American understanding of property and those commonly held locally. It was outside of the car that these differences came into sharper contrast. While stopped at a small market, several of the people with whom I was traveling stood waiting for the group to reassemble. While waiting, one of our local counterparts, Carlos, made himself comfortable by leaning against an adjacent vehicle. This seemed to be unusual behavior, as we were quite certain he did not know the owner. I recall being unsettled, as such casual contact with another's possessions would very likely be unacceptable at home.

When the owner of the vehicle returned, however, he barely took notice. Carlos, too, seemed unconcerned. Even as the man got into his car and prepared to leave, neither displayed any indication that this was out of the ordinary. Finally, with a polite gesture, the owner of the car signaled that he was ready to leave, Carlos leaned forward, and the man drove away.

Days later, after having some time to consider what had taken place, I asked Carlos about the incident. I suspected that a different set of cultural norms existed in Costa Rica regarding the boundaries on private possessions. In affirmation of my assessment, he barely recalled the encounter. For Carlos, it had been such an ordinary experience that it had not been worth noting. The unfamiliar cultural norms and misalignment of understandings about these boundaries is instructive for the scholarly examination of land ownership practices in cross-cultural scenarios. To be clear, however, this example is not being presented to suggest that the same social

protocols concerning material properties like a car extend to access rights of privately owned land (though, as will be explained below, some parallels in this case do exist). What this anecdote is intended to illustrate is that "private property" does not mean the same thing to everyone in every case.

In this chapter, I will discuss how a simplified understanding of what is meant by "private property" in Costa Rica has concealed the expansion of exclusionary land ownership practices, specifically within the context of the new dominant PSA conservation regime. I will demonstrate this to be the case by, first, discussing the property and ownership regimes on which payments for ecosystem services programs are founded. Then I will review, in conceptual terms, the various theoretical framings of property, access, privatization, and accumulation. Following that, I will present a historical account of land ownership in Costa Rica, demonstrating that the country's tradition of privately owned land has historically meant something very different from conventional Euro-American understandings. Then I will explain how these practices are shifting to be more exclusionary under the land management practices of Costa Rica's recent conservation activities. Finally, I will draw some conclusions about our understanding of property ownership and privatization under neoliberal regimes.

PES and Property

The practice of making "payments for ecosystem services" is about the formation of new social relations between land managers (e.g. farmers, indigenous groups, government actors) and the human beneficiaries of functioning ecological systems. More specifically, it is about establishing *economic* relations that (theoretically)

transfer financial resources from "users" of services to "producers" who institute prescribed land management practices. As such, these schemes hinge on well-defined property rights (Farley and Costanza 2010), so that participating land managers may be rewarded (as well as held accountable) for their management activities.

Whether these rights should be based on private land ownership or other more inclusive regimes is the subject of active debate (Muradian et al. 2010). Many advocates of PES tend to favor individualized private ownership (Pagiola 2008; Wunder 2005; Engel et al. 2008), while other more cautious assessments observe that such regimes may have undesirable social and ecological implications (Redford and Adams 2009). The influential Coasian view (see Tacconi 2012) sees "clearly defined and enforced" property rights as a condition for successful user-financed schemes (Engel et al. 2008, 667; see also Muradian et al. 2010; Barbier and Tesfaw 2012), but the enclosure of land under individualized private control can mean (and historically, *has meant*) the dispossession of vulnerable communities and the accumulation of resources by the elite (Andreasson 2006). Understandably, those with an acute sense of history find the renewed prospect of privatization associated with PES disconcerting.

It should, perhaps, not be surprising that, where tenure security is weak, PES programs can put communities at heightened risk of dispossession and marginalization (Barbier and Tesfaw 2012). But what about when PES operates in areas where private ownership rights are robust and widespread? Are we to believe that the tendency towards privatization poses no threat and that implementation does

no harm because no change of ownership is required? Robertson suggests that when ecosystem services "are vested in sites already privatised … we may struggle to define the actual *problem*" because "without dispossession in the traditional sense, who is harmed?" (2012, 397). Certainly, as Robertson recommends, we need to understand PES "as part of the larger process of rendering surplus value" (Robertson 2012, 397) – that is, the larger role it plays in facilitating capitalist expansion – but we also must reveal exactly why it *is* a problem in "already neoliberal" economies by seeking an understanding of precisely how, for example, it has altered ownership practices.

While Costa Rica's PSA is one of the best known, and perhaps most advanced, initiatives carrying out PES worldwide, very little attention has been directed specifically at the effect of the program on property ownership. This is, perhaps, the result of a commonly held perception that Costa Rica (unlike most other Latin American countries) has a long tradition of privately owned land (Chomitz et al. 1999; Campbell 2006; World Bank 2007, 1) and, therefore, is not experiencing a new wave of privatization with the introduction of PES. As I will argue, however, this assessment of historical ownership practices is being presented rather uncritically, with little appreciation for the shifting social relations that constitute property ownership or the actual practices being introduced under the PSA. The tendency to make certain presumptions about what the private property relationship entails has diverted attention away from shifting patterns of access and the narrowing distribution of benefits. The assumption being made is that land access patterns under the new program are consistent with those that have existed historically, as if "private ownership" has always carried the same meaning.

In actual practice, what private land ownership represents in Costa Rica is changing significantly under the PSA. This has gone unnoticed, however, because property ("the *right* to benefit from things") and access ("the *ability* to derive benefits from things") are being conflated (Ribot and Peluso 2003, 153). Without an appreciation of the differences between these concepts, it can seem that "private property" before the PSA and "private property" under the PSA are one-and-the-same. Such nominal equivalence belies the very different practices that occur under divergent governing regimes. Even though the *type* of ownership may be unchanged by the new regime, the patterns of access are an entirely separate question. In fact, as I will demonstrate below, land owners who enroll in the PSA are required to manage their lands in ways that are far more exclusionary than ever before.

There are many implications to the assumption that property in Costa Rica has always (since colonization) been privately owned. For one, it precludes the existence of privatization – if ownership was already private, the PSA cannot make it more so. My argument, however, is, in a way, precisely that. If privatization is taken to be the expansion of exclusionary land management practices – the greater restriction of people's ability to access resources – then it can in fact be taking place regardless of the ostensible preexistence of private ownership. The assumption that access rights remain unchanged because ownership has always been "private" conceals important shifts in who controls and ultimately benefits from resources. As Ribot and Peluso suggest, benefits are often "redistributed and captured in the course of changing social relations and legal frameworks as new conflicts and cooperative arrangements emerge" (2003, 160), and as Kosoy and Corbera indicate, "where new property rights

regimes are introduced, there is an inherent risk that these are defined by those with economic and social power" (2010, 1234). The PSA, I am arguing, is an instance of such shifting relations and frameworks, and the result is an expansion of exclusionary land management practices and the consolidation of control over resources – effectively, the privatization of already-private resources.

On Property and Access

In order to make this case, we must first conceptualize property and access, and theorize how they have been linked (and differentiated) historically. Contemporary notions of property (in the Western tradition) stem largely from the work of John Locke, an influential thinker of the 17th century. Locke's "labor theory of property" is at the foundation of our current conceptions of ownership. His ideas, however, fall short in terms of appreciating the many social mechanisms that determine access. The work of Ribot and Peluso (2003), on the other hand, provides important insight for understanding these matters. This section lays a framework for my analysis of shifting property/access relations under the PSA by re-interpreting "privatization" as more than the individual accumulation formal *rights* to property. Instead, I adopt an expanded understanding of privatization as the individual accumulation of the *ability* to benefit.

Property

Considered the "father of private property" (Wolford 2007, 553), Locke believed that exclusive ownership was a right derived from laboring on land (Mansfield 2007a). In his view, it was the God-given right of "man" (and in his time it was only men) to claim resources from the commons, through the expenditure of physical effort:

> He that is nourished by the acorns picked up under an oak, or the apples he gathered from the trees in the wood, has certainly appropriated them to himself. No body [sic] can deny but the nourishment is his. I ask then, when did they begin to be his? …if the first gathering made them not his, nothing else could. … And will any one say, he had no right to those acorns or apples, he thus appropriated, because he had not the consent of all mankind to make them his? … If such a consent as that was necessary, man had starved, notwithstanding the plenty God had given him (Locke 1821 [1689], 210).

In Locke's view, "natural law" gave humans the right to property through labor.[72] He also believed that it was the duty of the state to protect those rights (Wolford 2007), guaranteeing individuals exclusive control over the land they had brought into production (McCarthy and Prudham 2004).

The conventional reading is that Locke's "labor theory of property" constitutes the foundation of liberal framings of private ownership and exclusionary land use practices – as McCarthy and Prudham point out, the "Lockian discourse of an atomistic society of free, equal, landed individuals … resonates strongly with neoliberalism" (2004, 277). This is typically held to be antithetical to the Marxist framing of property as state sanctioned theft – the appropriation of rights by those who are able to mobilize "laws, customs, and conventions" in their favor, from those who labored to add value (Ribot and Peluso 2003). Wolford, however, argues that Locke's work is nuanced enough to justify "both the neoliberal focus on individual contractual rights to property … and the populist focus on 'land for those who work it'" (2007, 551).

Locke certainly was not "arguing for the unlimited individual accumulation of land

72 Interestingly, Marx also subscribed to a version of this 'labor theory of property', saying that "all production is appropriation of nature on the part of an individual" (1973, 87). He added, however, that "it is altogether ridiculous to leap from that to a specific form of property, e.g. private propterty" (ibid.).

and property", which according to McCarthy and Prudham (2004, 277) is the interpretation mobilized by contemporary liberally-oriented actors. Rather, Locke indicates limits to accumulation:

> It will perhaps be objected to this, that if gathering the acorns, or other fruits of the earth, &c. [sic] makes a right to them, then any one may *ingross* as much as he will. To which I answer, Not so. The same law of nature, that does by this means give us property, does also *bound* that *property* too (Locke 1821 [1689], 212, emphasis original).

To the question of how much property may be claimed from a commons, Locke specifies that it should be:

> As much as any one can make use of to any advantage of life before it spoils, so much he may by his labour fix a property in: whatever is beyond this, is more than his share, and belongs to others (ibid., 212-213).

The context in which Locke formulated his theory of property was one of grossly inequitable accumulation of land and property by the feudal lords of his time. In appreciating this context, the idea of the individual right to land (proportional to one's own labor) can be seen as an emancipatory concept that opposed the hegemonic order. It can be interpreted as advocating the *expansion of access* to land and resources through the redistribution of (private) property rights.

Locke further explains that it was the invention of money that allowed "man" to acquire "more land than he himself can use the product of" (1821 [1689], 229). But, here, he still does not say that *unlimited* accumulation is appropriate or acceptable. Rather, he is asserting that it "invade[s] not the right of others" for people to store the surpluses of *their own labor* in non-perishable objects such as money (1821 [1689], 227). The limit to such accumulation, then, is the limit of any single individual's productive capacities. Accumulation beyond that requires, for example, the

employment of others' labor at incommensurate rates. Property gained in that way is, as Marx saw it, theft. A careful reading of Locke suggests that he would have even agreed with Marx in this regard. For example, Locke states that:

> every man has a property in his own person: this no body [sic] has any right to but himself. The labour of his body, and the work of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, … he hath mixed his labour with, and joined to it something that is his own … this labour being the unquestionable property of the labourer, no man but he can have a right to what that is once joined to (Locke 1821 [1689], 209-210).[73]

Locke believed that humans had the right to products of their own labor, not the products of others'.

Access

The difficulty, of course, is that the outcome of Locke's "vision of a society better for all … was not a society of equals but a new class structure" (McCarthy and Prudham 2004, 277). This happened because Locke did not appreciate that the *right* to property does not guarantee *access* to it. One of the most important contributions, in this regard, is made by Ribot and Peluso (2003). Their theory of access makes a distinction between property and access that, as noted above, takes the *ability* to benefit from land or resources as entirely separate from the *right* to benefit ascribed by formal ownership. Access, they explain, is determined by "a wider range of social relationships that can constrain or enable people to benefit from resources without focusing on property relations alone" (ibid., 154).

This is important because formal property rights are (often) a rather minor factor in

73 Locke goes even further qualifying this statement by saying that people may only have the right to the products of their labor "where there is enough, and as good, left in common for others", suggesting that if resources become scarce, accumulation may have to be limited and rationing may be required.

determining who benefits from productive activities. As Ribot (1998) demonstrates in the case of Senegalese charcoal production, who owns the forest is relatively insignificant compared with who controls access to the resources and opportunities at each stage in the commodity chain. Even if the national state officially owns the forests, political structures and social relations of local villages dictate who can use them, and control over the various other stages in the chain (including transport, distribution, and sale) is the primary determinant in who actually benefits from the process as a whole. Ribot shows that "[p]roperty, title or ownership rights alone are simply not sufficient to guarantee that any individual or group can or will benefit from forests, pastures or farmlands" (1998, 335). The theory of access articulated by Ribot and Peluso (2003) complicates the straightforward assumption that individual rights to property result in the just distribution of benefits from labor, and it explains why Lockian conceptions of property merely re-shuffled familiar class structures.

An individual's ability to leverage another's labor (e.g. through political influence, social connections, threat of violence, or access to capital) results in the uneven accumulation of benefits. Excess capital, then, allows for the expansion of influence and greater control over access to resources, regardless of anyone's formal claim to property. As Ribot and Peluso (2003) explain, the tension between those who *control* resource access and those who must pay tribute in order to *maintain* their access is at the root of the re-emergent class structure identified by McCarthy and Prudham (2004). Furthermore, they observe that this relationship parallels the one that Marx identified "between capital and labor":

> The relation between actors who own capital and those who labor … parallels the relation between actors who control others' access and those who must maintain their own access. In both cases, it is in the relation between these

> two sets of actors that the division of benefits is negotiated. To maintain access, subordinate actors often transfer some benefits to those who control it. They expend resources to cultivate relations or transfer benefits to those who control access in order to derive their own benefit (Ribot and Peluso 2003, 159).

Extending this observation, the consolidation of control over access to land or resources can be seen to parallel the concepts of "primitive accumulation" and "accumulation by dispossession".

Accumulation

Primitive accumulation is the process conceived by Marx to explain the origin of surpluses that allowed for the capitalist mode of production to emerge. It can be understood as the original enclosures that allowed the bourgeoisie to accumulate more than their fair share (Glassman 2006; Corson and MacDonald 2012). Liberals (classical or neo-) take this process to have been peaceful, essentially arising from differences in individuals' willingness to labor harder or for longer (Harvey 2010) – this belief is rooted, of course, in (a misconstrual of) the ideas of accumulation in Locke's labor theory of property, explained above. In contrast to the liberal framing, Marx saw the process as the "'forcible usurpation' of common property" through violence and state-sanctioned theft (Glassman 2006, 610). Certainly, this "original" accumulation was also enacted through the many other social mechanisms identified by Ribot and Peluso (2003).

As outlined in Chapter 2, however, David Harvey has explained that the term "primitive" suggests that this accumulation occurred long ago and, thus, "is considered no longer relevant" (2003, 144). Instead, he argues, this process of accumulation through "predation, fraud, and violence" is ongoing (ibid.). To clarify

this commonly misunderstood concept, he offers the term "accumulation by dispossession" as an alternative for the same process. This recognizes the fact that not only is wealth accumulated through capitalist re-production, it is also stolen through various processes, including privatization, commodification of labor, debt, and appropriation of assets, to name but a few (ibid., 145).

At a superficial level, "privatization" can be understood as simply the primitive accumulation of formal property rights – the conversion of "previously state-owned, unowned, or communally owned" resources to exclusive individual control (Castree 2008, 142). But this focus on rights, rather than the myriad other social relationships that determine access, does not, as Ribot (1998) and Ribot and Peluso (2003) have shown, adequately explain the division of benefits in society. A fuller appreciation of this complexity requires that privatization be understood to include the primitive accumulation *of access*. In other words, the consolidation of control over resources has more to do with the (re-)negotiation of relative shares than the possession or re-distribution of formal property rights.

Land Ownership in Costa Rica

In order to understand how "privatization" (i.e. the expansion of exclusionary ownership practices) can still occur in a context of already-private resources, we must give attention to "locally specific histories of environments, land use, governance and agrarian relations", as current relations are shaped by an "array of prior enclosures and forms of territorialization" (Fairhead, Leach, and Scoones 2012, 248). In this section and the one that follows, I expand on the context provided in Chapter 4 to establish a detailed account of historical ownership patterns and a

nuanced understanding of the meaning of "private property" in Costa Rica. The purpose is to show how, despite a tradition of small-holder "private" ownership, a move towards new forms of conservation management is resulting in more exclusionary practices.

Historical developments affecting ownership patterns

Costa Rica is set apart from its Latin American neighbors in many ways, particularly by its historical patterns of land ownership. Unlike many of its neighbors, the country has a reputation for broad private ownership and strong institutions protecting property rights. According to the World Bank (2007, 1), approximately 60% of Costa Rican forest cover and 80% of deforested areas are on privately owned lands. In Costa Rica, small and medium-sized family farms have predominated over large-scale *latifundio* and indigenous holdings (Wilson 1998).[74] This is, of course, the product of many historical developments and Costa Rica's unique history within Central America.

Costa Rica's historical land tenure differences predate Spanish colonization. The territory that is today Costa Rica was situated between and at the periphery of the great pre-Columbian empires and, thus, had a comparatively sparse indigenous population (Evans 1999, 4). This, of course, had implications for European settlement patterns at the start of the colonial era. Since the power centers were located elsewhere, only a small colonial presence was required to assert control. Again at the fringe of the governing power, and only weakly bound to it, Costa Rica

74 It should be noted that, despite these land ownership patterns, the situation is far from egalitarian, as "economic and social life in Costa Rica [has been] characterized by significant income and wealth disparities" (Wilson 1998, 14).

was a poor colony with development (mostly agricultural) lagging well behind (Booth 1998; Brockett 1988). Since Costa Rica did not contain large deposits of gold or other important resources, the area did not attract further settlement – the European population of Costa Rica barely surpassed 2000 in the first two centuries of its colonization (Booth 1998). Limited colonial economic activity meant that collective indigenous ownership was relatively undisrupted throughout most of the country. This situation was tenuous, however, as the simple act of a European colonist putting "free" land to some use would displace any other claims.

After gaining independence in 1821, Costa Rica was able to expand trade beyond Spain. This accelerated agricultural development, and as explained previously, coffee production became the basis of the economy. Land management, however, remained tied to the colonial past. Since colonial settlers had been minimally successful in subduing indigenous labor, they were unable to amass control over vast resources (Wilson 1998). As a result, "most Costa Rican coffee growers farmed on small, family-owned *cafeteras* … [rather than] large-scale plantation monoculture (the *latifundista* experience typical in much of the rest of Latin America)" (Evans 1999, 6). Unlike its neighbors, Costa Rica did not see the consolidation of control of vast lands in the hands of elite agriculture barons. Indeed, European settlements during the coffee production period occupied only 2% of the national landmass (Wilson 1998, 25).

Costa Rica's second major export commodity, bananas, was equally formative of land ownership patterns. The agreement, described in Chapter 4, between U.S. railroad tycoon Minor C. Keith and the government of Costa Rica granted nearly 7% of Costa

Rica's national territory to a single company on a 99 year lease (Brockett 1988). This move changed the face of the Costa Rican economy from a small-scale owner/producer coffee industry to one based on international investment, large-scale ownership, and wage labor. As banana production required greater capital investment (in terms of labor force and transportation infrastructure), it was not a feasible venture for most small-scale operations (Evans 1999). The result was unprecedented accumulation, extensive ecological devastation, and the exploitation of labor.

Costa Rica's experience with banana production had lasting effects on human migration patterns, especially with regard to (re-)settlement of the frontiers.[75] When the banana producers had exhausted the productive capacities of their plantations, they simply abandoned their operations (and workers!) and moved on. This happened twice in Costa Rica – once on the Caribbean side, and again in the southern Pacific areas. Those left behind "flocked to the countryside to settle, farm, and eke out a living in the forest" (Evans 1999, 37). *Precarismo*, wherein the landless poor laid claim to "unused" public, private, and indigenous land, was common. It was facilitated by timber production, which provided roads and deforested land that could be brought into agriculture or ranching. The practice expanded small-holder land possession throughout Costa Rica, though always under tenuous legal conditions and with no formal rights.

While the *precaristas* were sometimes considered "invaders" by large private land

75 Though Costa Rica's indigenous population was "comparatively sparse", it is important to note that the "frontiers" were hardly empty landscapes, and that the influx of Costa Ricans of European and Afro-Caribbean descent constituted the dispossession and dislocation of native peoples.

owners, they rarely took land that was "under conspicuous use" (Evans 1999, 42), and broad sympathy existed for their condition.[76] Nevertheless, the first law aimed at addressing *precarismo* was passed in 1942. Although the law professed legal protection of "the right to cultivate and take possession of uncultivated lands" (Yashar 1997, 253), it's title, *Ley de Parásitos,* was indicative of the bearing it would have and of who it would ultimately favor. While the law provided *precaristas* with legal protection of lands in possession, it also "assumed responsibility for compensating owners whose land was affected" (Yashar 1997, 253). Abuse of the provision meant that the law primarily favored large landowners, who were granted new lands in remuneration for occupied ones, even though they often actively enticed squatters to "invade" their old depleted lands (Evans 1999, 59). This created a situation wherein large landowners were ensured a constant supply of fertile lands, while the disadvantaged segments of the population received only depleted ones – the legacy of which is marked in the current patterns of ownership and productivity.

Following the model laid out by the banana industry, Costa Rican economic development had, by the mid-20th century, shifted toward further foreign investment and large-scale operations. George Guess, for example, remarked in the late 1970s on the "declining importance of the small farmer-entrepreneur in the overall development strategy" (1978, 599), saying that the "public policy emphasis on large-scale agro-export production virtually assures the elimination of small farm activities" (ibid., 605). Palm oil production was one such "large-scale agro-export" industry that emerged in the 1950s. Like bananas, palm oil was "capital-intensive"

76 The closest English equivalent of *precarista* may be "squatter" but, as it is used in Costa Rica, the word does not usually carry the same negative connotation.

and did not provide opportunities for small owner-producer operations (Evans 1999). At the same time, the older industries were faced with greater international competition in the increasingly globalized world. This caused prices to decline and the export industry to falter. Coffee, the country's enduring small-producer commodity, suffered from "a sharp decline in world … prices" during this period (Evans 1999, 37). This, of course, had reverberating effects on ownership patterns and income distribution – the result being a narrower control of land and productive activities in the hands of industrial operations and corporate interests.

As the internationalization of agricultural production continued, the cattle industry rapidly took center stage as Costa Rica became the largest beef exporter in Central America. As noted earlier, the demand for beef to supply an "exponentially growing" North American fast-food market drove a wave of deforestation, but it also had an important effect on ownership patterns in the cattle producing regions (Evans 1999, 38). Contrary to what might be expected, however, expansion of this industry caused a fragmentation of ownership. Up until the post-WWII boom, cattle production was one of the few sectors that had seen prior *latifundismo*. Within the main cattle producing region of Guanacaste, land had been concentrated primarily in the hands of just 13 families since the late 1800s, but shifting political conditions (as well as shifting economic structures) allowed new actors to enter the industry (Edelman 1985). Specifically, nationalization of Costa Rica's banking system "permitted credit to be channeled on the basis of political criteria" (Edelman 1985, 170), which opened new opportunities for investment by "upwardly mobile middle class groups associated with the forces [that] were victorious in the 1948 civil war" (ibid. 178). Nevertheless, 78% of the Guanacaste landmass continued to be held by landowners

with over 100 hectares and 41% by owners with over 1000 hectares (Edelman 1985, 158).[77] Beyond that, export oriented growth had the added effect of driving up local prices for dairy and beef, lowering "the overall standard of living for the nation" as a whole (Evans 1999, 39).

After the 1948 civil war, the ruling junta actively pursued policies that would address growing disparities from agricultural industrialization. To do this, the Figueres administration sought to resolve the (still) uncertain conditions for *precaristas*. In light of widespread sympathies held for the rural poor, and in recognition that "squatters were really more of a symptom of the larger problem of inequitable land distribution", the administration aimed to formalize their tenuous ownership conditions (Evans 1999, 59). It was not until 1961 that the Law of Lands and Colonization was actually passed, but it re-oriented the government's position on land allocation and countered the prevailing trend driven by agro-exportation. The language of the law made its objective quite clear – it sought to "contribute to the more just distribution of wealth" by "avoiding the concentration of national lands in the hands of those who would use them for specialization against the general interests of the nation" (quoted in Evans 1999, 60). The law also established ITCO (the *Instituto de Tierras y Colonización*), which was charged with administering "agricultural colonization" and allocating legal rights to *precaristas*. It did so with varying degrees of effectiveness – thousands obtained legal rights to the lands they occupied, but a backlog of applicants meant that only a fraction of those seeking title ever received it (Evans 1999). Nevertheless, ownership of land by informal small-holders came to be legally recognized, even if not always formally documented.

77 100 hectares is 1 square-kilometer.

This shift in policy ultimately encouraged settlement of rural lands in much the same way as the Homestead Act in the United States – free land to those who "improved" it – both being rooted in John Locke's "labor theory of property".[78] While this was a progressive social policy that was intended to aid the poor, it is often faulted for having caused extensive environmental devastation, as making "improvements" was taken to mean bringing land into agricultural production. Sanctions were actually imposed on landowners who retained uncultivated lands (Evans 1999, 42). Very often, however, it is the poor farmers themselves that are blamed for this environmental damage, rather than the shortsighted policies that conceived of "improvements" as the removal of forest. As Vivanco points out, the rural poor "have been widely projected as the main culprits in [Costa Rica's] rapid deforestation" (2003, 65; 2006).

For instance, Evans asserts that the forests were being "threatened with the influx of squatter farmers and their families seeking new lands to clear and farm" (1999, 58-59), and that once the lands were depleted they "searched for and moved to new frontiers, renewing the destructive cycle" (ibid., 42). While there is some acknowledgment in his analysis that the *precarismo* "problem" stemmed from wider economic injustices, Evans (1999) does not expand on the fundamental cause. A more reasoned explanation is that flawed conceptions (typical of the era) about what constituted wise use of land are the real reason for the damage sustained to the environment, rather than the allocation of rights to impoverished people. Certainly,

78 Significantly, the law also asserted that all lands "not under title of private ownership legally belonged to the state" (Evans 1999, 60), which laid the foundation of the government's authority create the country's now famous system of parks and protected areas.

far more damage can be attributed to the industries that recklessly pursued short term capital gain over sound ecological management. The current understanding (that functioning ecological systems provide important benefits to society) would, without a doubt, have altered what "making improvements" actually meant, and would have resulted in a very different outcome.

As noted in Chapter 4, conservation interests, alarmed by the rate and extent of ecological degradation, responded with what is now viewed as one of the world's most successful campaigns to preserve tropical biodiversity. Beginning in the 1970s and lasting through the 1980s, the influential and well connected conservationist class succeeded in establishing one of the most extensive systems of parks and protected areas worldwide (Evans 1999). In all, 25% of Costa Rican land came under some form of legal protection (Roberts and Thanos 2003, 79). This was achieved (primarily) through state action, which involved the expansion of public holdings through expropriation, land swaps, and relocation of entire communities (Evans 1999).[79] Given the historical prominence of "private" ownership, however, the extent of these efforts was ultimately limited by the availability of suitable land and the political viability of the approach – political and social conditions would only ever allow a certain amount of nationalization.

Accordingly, the government was also acting on a second front through the Forest Laws identified in Chapter 4 (*Ley Forestal* 4465, *Ley Forestal* 7032, *Ley Forestal*

79 Significant conservation was also achieved under private efforts, for example in the Monte Verde region (Vivanco 2006).

7174, *Ley Forestal* 7575). As explained, these were implemented in an attempt to stem the rate of deforestation on private lands. The second incarnation of the forest law, in particular, came into conflict with the Costa Rican traditions of private ownership, as it sought to regulate not only activities on state lands, but also those on privately held ones (Watson et al. 1998). The law provided the government with the ability to intervene in private timber operations, which some landowners and the logging industry viewed as an incursion on the institution of private ownership (Evans 1999, 165-166). The dispute was ultimately brought before the Constitutional Chamber of the Supreme Court, which nullified the law on the grounds that it had not passed with sufficient majority to allow restrictions on private land use activities, having fallen short of the two-thirds majority required regulate such matters by a single vote (Evans 1999).

The result of these historical developments is a unique pattern of land ownership and a distinct socio-political context for contemporary conservation action. While some similarities with other countries in Latin America exist (e.g. a large number of urban landless and wage laborers in agricultural production and manufacturing; Seligson 1980), Costa Rica has a comparatively high degree of privately owned small-parcel lands (Watson et al. 1998, 31), albeit frequently without legal title. A common assumption is that this condition makes Costa Rica ideally suited for implementation of payments for ecosystem services – if much of Costa Rica's forests are already privately owned, conservation can be achieved by merely persuading landowners that it is an economically competitive option, that it is the *economically rational* way to manage their lands. The conventional logic is that the property situation makes Costa Rica a "natural" fit for PES and that implementation does no harm because no change

of ownership occurs. However, as I have already suggested, this assessment is being presented rather uncritically, as precisely what is meant by "ownership" and "private property" is not universal – what sort of rights are afforded and what sort of practices are permitted is highly variable. Whereas North American conceptions of private property have long been "based on an absolutist and static assumption of domain and control", Costa Rican ones have been far less exclusionary (Vivanco 2006, 33).

Access and the meaning of "ownership"

In the case that opened this chapter, I explained that the way in which property is understood in Costa Rica is culturally specific and (potentially) unfamiliar to individuals from other cultural perspectives. Varied social norms concerning access to possessions, land, or resources cannot be assumed to follow familiar patterns of control and exclusion. Different conceptions of property have many implications for how privately owned land has historically been managed in Costa Rica. What sort of activities are permissible (or unacceptable) on land claimed or held by others must be understood in the context of accumulated social history.

Rural Costa Rican practices on private lands have historically allowed considerable access to the broader community. As Vivanco has observed in the Monte Verde region of Costa Rica, it is "appropriate to view notions of private property … in terms of labor investment", where access is understood to be considerably more flexible and negotiable than it is under "absolutist property concepts" (2006, 33). Individuals often do not strictly enclose their lands, and communities retain many rights of access. Extractive activities (such as hunting, harvesting, and collection) on private lands may be undesirable but are often tolerated, whereas non-extractive

activities (recreation, right-of-way, tourism) are generally accepted (Herrera, interview, 18 Feb 2013). Even though the "period of relatively open *cogiendo de derechos*" ("grabbing rights") may not have lasted beyond the closure of the frontier (Vivanco 2006, 32), this mentality has had a lasting effect on how ownership is understood and land is managed, particularly in remote rural areas. Indeed, the situation could arguably be interpreted as an informal system of usufruct rights wherein members of the community are entitled to "use the fruits" of the land, so long as it does no lasting harm to the property or owner.

While lands under conspicuous use are generally respected as the exclusive property of the individual who labored to bring them into production, marginal lands (even those over which somebody may *claim* possession) are frequently treated as open access parcels (Herrera, interview, 18 Feb 2013). Previously, this might have meant that forested land would be under heightened risk of deforestation or degradation, but extractive practices such as the removal of timber are now highly regulated in Costa Rica and fairly uncommon on the industrial scale. It is now virtually impossible, due to strict regulation, for a person to claim "unused" land and extract resources for commercial purposes. It is still the case, however, that personal- and local-scale use of forest products (such as meat, *palmito*, spring water, and wood), though technically subject to the same regulation, does occur on these marginal lands.[80] It would also not be unusual to see "unused" agricultural lands brought into informal cultivation by local actors – as sometimes occurs on lands situated between two owners/holders and on lands that have no definite claim (Herrera, interview, 18 Feb

80 While the impact of these activities is a conservation concern (Redford 1992; Carrillo et al. 2002), they hardly constitute the industrial-scale extraction that led to Costa Rica's earlier ecological crisis.

2013).

Property boundaries are often fluid and overlapping in rural Costa Rica, and it is not unusual for "ownership" of land to be an informal matter of community agreement, rather than official documentation. In remote areas, "handshake understandings" between neighbors are often more prevalent than legal title, and if land lies fallow for too long new claims may be placed upon it. It is a system that can appear (and, indeed, often be) rather chaotic for outsiders accustomed to formalized legal status. Following the Costa Rican tradition of "possession-by-occupation" (Vivanco 2006, 32),[81] customary ownership generally requires that the property be under active use to remain under one's control – indeed, this is often times also the case even when legal title is held (Herrera, interview, 18 Feb 2013).[82] Lands that are not physically occupied, may be perceived as available to others – a condition that has complicated the country's transition from agriculturalism to ecological conservation.

The many conceptions of property that are embodied in Costa Rica's historical land uses (coffee production, banana production, forestry, frontier settlement, ranching, agrarian reform, conservation, etc.) have layered to produce a system of small-holder ownership/possession and broad access for the landless. While anything but egalitarian (Wilson 1998), this system has ensured a level of distributed wealth and access to land that is considerably more equitable than in other parts of Latin America (Stallings and Peres 2000). "Private property" may be more prevalent in

81 Possession-by-occupation likely has it's roots in the colonial era, when European settlers were able to lay claim to indigenous land simply by putting it to some new use. In present context, however, it is a custom that empowers the underclasses (indigenous peoples having long ago been dispossessed and confined to reserves).

82 This is a manifestation of Locke's idea that no person has the right to more land than he himself or she herself is able to work.

Costa Rica (Chomitz et al. 1999), but the actual practices that occur in many rural parts of the country do not necessarily follow familiar patterns of control and exclusion. Indeed, the prevailing traditions of land management run counter to the conventional wisdom that Costa Rica's property institutions are a manifestation of neoliberal ideals.

Costa Rica's PSA, however, has recently added a new layer of governance that is rapidly altering the level of access to land that is permissible. The program is, perhaps, the most significant development affecting land management in recent times, particularly with regard to the way in which it actively disrupts the permissive culture of usufruct access. Certainly the program has resulted in progress towards the responsible management of ecosystems, but it is also fundamentally altering social relations within rural communities by imposing exclusionary practices, monitoring requirements, and the policing of boundaries. These changes, however, have not yet received adequate scholarly attention, largely because there has been no apparent change in ownership designation. Oversimplified understandings of what constitutes "private property" have diverted attention away from the fact that certain (more inclusionary) practices are being displaced.

Land Management Practices Under the PSA

One of the greatest challenges for Costa Rican conservationists was to reverse the conventional understanding that "unimproved" (i.e. non-agricultural) land was freely available. Forested land had to come to be seen as "in use" in order to be spared from development. Certainly, the country's transition to an ecotourism-based economy has aided in this, and it is now broadly accepted that forest no longer

constitutes “empty” land, free for the taking. But ecotourism is not the only environmentally related activity that has “contributed to changes in concepts of property ownership and forest management” in Costa Rica (Vivanco 2006, 5). Introduction of the PSA has done a great deal to specify who is responsible for managing particular bits of forest, and in what ways, effectively formalizing claims over “unused” lands and prescribing management practices.

Instituting the PSA

The PSA emerged at a time when Costa Rica had already firmly established its reputation for environmental conservation on public lands. Faced with the “grand contradiction” of chronic deforestation on non-state lands (Evans 1999), however, the country had something of an ecological crisis on its hands. The existing forest management program was considered to be failing, but the alternative (further expropriation of land by the state) was viewed as impractical and politically inviable. Since direct intervention in private timber operations had just been overruled in favor of property rights, the government began to pursue a new mechanism for promoting action by private actors. The Legislative Assembly established a Special Forestry Commission that was tasked to develop such a plan (Watson et al. 1998). The existing incentive scheme was also viewed as a major liability for the debt-strapped nation (Rojas and Aylward 2003). Under the pressure of a third round of World Bank-imposed structural adjustment, Costa Rica was forced to eliminate any form of government subsidy, including the forestry certificate schemes (de Camino et al. 2000, 17). As has already been explained, the Commission recommended a series of actions that culminated in the most recent revision of the nation's forest law (*Ley Forestal* 7575).

The management regime that emerged – the PSA – was, of course, aimed at establishing financial links between "users" and "providers" of ecosystem services. The new system is not based on environmental ethics or state support for preferred management techniques, but rather on personal self-interest and an assumption of economic rationality. The program aims to set up relationships that would have "users" of services compensate landowners for ensuring the delivery of particular ecosystem benefits (Sage and Sanchez 2002). Though only a loose correspondence between this idealized model and actual practice exists, the foundational motivations for doing conservation have been altered by the program.

Landowners that wish to participate in the program must submit an application to the *Fondo Nacional de Financiamiento Forestal* (FONAFIFO), the quasi-governmental organization that oversees the program. Applications must include a land management plan drawn up by a certified *regente*, as well as other supporting documents (see Pagiola 2008). These management plans specify the practices that are permissible under the contract, as well as various other requirements, should the application be accepted. The activities vary according the contract type (referred to as the contract modality), but upwards of 90% of participants do so under the conservation modality (Porras 2010).

Participants in the program agree to manage their land according to a contract that is signed with FONAFIFO. These contracts transfer the ecosystem "service rights" to the agency, which may sell them to service "users" in order to finance the program.[83]

83 Thus far, however, the market has largely failed to materialize and financing from the sale of these

In exchange, the participant landowner receives an annual payment at a standard per-hectare rate, currently $64/ha/yr on a 10-year renewable contract for the conservation modality (MINAET 2012). A percentage of these payments (established in an agreement between the landowner and *regente*) is then transferred to the *regente* as compensation for preparing the contract.[84] *Regente* involvement continues throughout the duration of the contract, as routine monitoring of enrolled properties is required by law. FONAFIFO, as well, performs routine checks on a sample of properties to ensure the integrity of *regente* reports. Violations by landowners are rare (Segleau interview, 16 Jan 2012), but can result in contract termination (Pagiola 2008). Inspections ensure that contracts are being honored, but it is the landowners themselves that are responsible for day-to-day management and surveillance. They must, for example, report incursions by third parties. FONAFIFO keeps records on the frequency of these incidents and ultimately decides whether or not further investigation or action is required (Alfaro interview, 23 Jan 2012).

Expansion of Exclusionary Practices

When landowners enroll in the PSA, they make a decision to manage their land according to the guidelines laid out in the *regente*'s plan. This decision, however, has bearing on more than just the owner's use of land. It also affects the levels of access enjoyed by members of the broader community. Surveillance requirements oblige participants to monitor their forests and enforce the practices outlined in their agreements (MINAET 2009). While it is unusual for landowners to be found in violation of their contracts, they occasionally must deal with incursions by non-

services remains insignificant (FONAFIFO 2011).

84 The fact that *regentes* are paid by their client landowners presents a disconcerting conflict of interest. If a *regente* reports a contract violation, and the contract is terminated, the *regente* also stands to lose his or her source of income.

owners (Zuñiga interview, 30 Jan 2012; Alfaro interview, 23 Jan 2012).[85] Because they themselves are being monitored, landowners must report these incursions or else stand to have their contracts terminated, resulting in the loss of future payments. Even if a landowner might have previously tolerated usufruct access to his or her forest, enrollment in the PSA means that they no longer can.

The stakes are high, and non-compliant landowners have much to lose. Given an average conservation contract size of 91.4 hectares (Zbinden and Lee 2005), the typical PSA participant receives an annual payout of about $5850, a substantial sum in a country where the average annual income is just $7640 (World Bank 2011). Financial pressure to remain in good standing with the program by enacting exclusionary practices is, therefore, quite strong. Indeed, it is even more pronounced with the largest contracts. Individuals that are able to enroll the maximum 300 hectares will net $19200 per year, more than 2.5x the average Costa Rican income. Even when accepting that landowners are motivated by more than just bottom-line economics, the threat of losing such a substantial source of income certainly does become a factor in their decision calculus.

The program fundamentally alters the relationship between owners, their land, and would-be trespassers. This, of course, might be considered a designed-in (and desired) feature of the program – certainly reduced ecosystem degradation is a positive consequence – but what I am concerned with here is the distribution of benefits from access to resources and the shifting social relationships that constitute

85 Whether landowners are violating contracts and reporting them as incursions by neighbors is unclear, but I was assured this is not likely (Segleau interview, 16 Jan 2012) and that the problem is quite rare, occurring on only two of the seventy properties that one *regente* supervises (Alfaro interview, 23 Jan 2012).

property and access.[86] The PSA prescribes a set of practices that require enrolled landowners to deny access. Whether or not they would choose to exclude or allow access to the broader community on their own volition does not enter the picture. Participants in the program are, in effect, transformed into boundary guards, establishing an adversarial relationship with the wider community. The result is the accumulation of benefits to an individual, rather than the broader distribution across a population, as might have otherwise existed.

PSA regulations also stipulate the requirement to signpost enrolled land (MINAET 2009; see figure 7.2). This requirement is a response to the historical understanding that "unused" land is free for the taking, and it is a performance of the new definition of what constitutes "conspicuous use". It serves to communicate to the broader community that the forest is off limits, and it allows landowners to expand their control over ever-greater resources. Even though small farmers of the previous era frequently asserted claims to wooded lots beyond what they themselves could bring into production, the resources within them and access to them often remained outside of their control. With the PSA, this is no longer the case. Signposting allows individuals to assert control over an amount of resources that is greater than their "fair share" (in the sense of John Locke's labor theory of property) by mobilizing the authority of the state.

86 It is important to note that support for broad access to land is not the same as calling for a return open-access resource extraction – conservation is certainly the more ecologically *and* socially preferable option, it just needs to be done in a way that allows for a broad distribution of benefits.

Figure 7.2: Signposting required for participation in the PSA.
The sign reads: "On this farm we are reforesting and thereby protecting nature".

Under the PSA, enrolled lands are effectively cordoned off and monitored to ensure that no extraction takes place. The program is, in effect, introducing new concepts and regimes of property that are "based on an absolutist … assumption of domain and control" (Vivanco 2006, 33) – owners must monitor their lands, restrict access, deny the use of resources, and report any violations to the authorities. Payments for ecosystem services, often assumed to be the antithesis of the older "fortress" approach to conservation (see Brockington 2002), actually has much in common with it, including enforcement of exclusionary measures, narrow control over resources, and an antagonistic relationship to local communities. The only difference appears to be the way in which these practices are enacted – whereas the fortress model relied on employment of rangers and guards to exclude communities from parks and protected areas, the PSA enlists *private* actors through guarantees of property rights and facilitation of the ability to deny access. Participants in the program are impelled

to action by monetary incentives, while internalizing practices that lead to institutionally desired outcomes. The program acts as a form of neoliberal governmentality (Fletcher 2010), that results in the corrosion of social cohesion and the consolidation of control over resources. Landowners do far more than just ensure conservation; they enact an exclusionary system of management that is rooted in personal self-interest rather than social responsibility and ethics.

Furthermore, the forest law (*Ley Forestal* 7575) contains unprecedented language concerning settlement and eviction. Evidently encouraged by the World Bank (de Camino et al. 2000, 71), Article 36 of the law reverses some of the most fundamental protections for the landless and dispossessed that have historically existed in Costa Rica. The provision empowers police to evict settlers at the behest of landowners involved in forest programs,[87] effectively making land "invasion" a criminal offense enforceable by police action. It also states that police have "a maximum period of five days to execute the eviction and present the allegations before the competent courts", oddly implying that the eviction should happen first and be taken to court later.[88] Quite astonishingly, given the far-reaching effects that this provision could potentially have, it does not appear to have yet received any scholarly analysis. Study of how this is playing out on the ground is urgently needed. What the provision appears to achieve is a complete inversion of the historical valence of power between the landless and property owners (*Ley Forestal* 7575, Title 3, Chapter

87 The provision reads: "*Las autoridades de policía deberán desalojar a quienes invadan inmuebles sometidos voluntariamente al régimen forestal o dedicados a la actividad forestal, a solicitud del titular del inmueble o su representante y, previa prueba del sometimiento voluntario del inmueble al régimen forestal*" (Ley Forestal 7575, Title 3, Chapter 4, Article 36).

88 The provision reads: "*Las autoridades de policía dispondrán de un plazo máximo de cinco días para ejecutar el desalojo y presentar las denuncias ante los tribunales competentes*" (Ley Forestal 7575, Title 3, Chapter 4, Article 36).

4, Article 36).

Participation in the PSA not only strengthens ownership, though, it also formalizes rural property relations and creates a particular type of property owner. This is occurring in two main ways. The more obvious way this is occurring is through land-titling efforts that have been promoted by the World Bank (Porras 2010). Both Ecomarkets I and Ecomarkets II have provided assistance to development organizations to help rural land holders formalize their claims (World Bank 2006, 46; World Bank 2007, 7). In addition, there is also a pathway for participation in the PSA that results in *de facto* title over lands in possession. Initially the PSA did not allow enrollment of lands that were not under legal title, as law forbade the use of public funds in that way (Pagiola et al. 2005). FONAFIFO, however, was able to circumvent these restrictions by mobilizing private funds, until the law was eventually revised to allow informal land holders to participate directly (Pagiola et al. 2005). Once enrolled in the PSA, holders of these informal lands are entitled to all the protections guaranteed by the forest law. This means that, despite lacking a traditional title, holders of lands enrolled in the PSA have the ability to deny access and exclude others (forcibly, if need be) from the benefits. While property rights can, in certain ways, be emancipatory for the historically dispossessed (Mansfield 2007b), these newly empowered land holders are being made, under PSA management prescriptions, to behave according to idealized notions of independent, self-interested, and "rational" economic actors. They must exclude others and accumulate benefits to themselves, regardless of how they might have chosen to manage their lands previously.

Exclusion, surveillance, and the policing of boundaries means the accumulation of benefits among landowners with proper title (or those who are able to secure legal tenure), and it means the dispossession of access for the landless and broader community. If the PSA were to reflect the more distributed allocation of and access to resources that has historically existed in Costa Rica, it would have to make payments on a community level – instead of managing lands in an exclusionary and adversarial way, it would have to manage them in an inclusive and cooperative way.[89] The assumption that such broader access to resources will lead, as it did previously, to unrestrained extraction, however, is rather unfounded, as extractive practices are far less acceptable in this era of conservation awareness. Distributed benefits should not, therefore, be equated with resource depletion. The equivalent of the PSA under a system of distributed benefits would reward communities (rather than individuals) for sound ecological management. As it actually functions, benefits are centralized and conservation is achieved by forcibly excluding access.

Conclusion

In their assessment of neoliberalization in rural land conservation, Hodge and Adams (2012) make use of counterfactual analysis as a way to "get beyond a simplistic dichotomy of 'free market' versus 'state intervention' and to explore the particular changes that occur in both the formal and informal institutional arrangements" (2012, 477). This approach compares the world in which changes have occurred against a world absent those changes, in order to assess their effect (Hodge and Adams 2012; Sayer 1995). In the case of Costa Rica, an understanding of the PSA's effect on

89 Indigenous communities are actually permitted to participate on such a collective basis, but an assessment of the equity implications requires detailed knowledge of indigenous politics and practices and is beyond the scope of this thesis.

property requires consideration of what ownership practices would have been if the regime had not been put in place. In effect, what are the "real" differences caused by the activities of the PSA? The counterfactual to this regime is ostensibly private ownership, although with broad usufruct access.

The tendency towards privatization that these PES programs introduce is downplayed in the case of Costa Rica, as much of the country is assumed to be already under private ownership. As I explained, however, this assessment of historical ownership practices was being presented rather uncritically, with little appreciation for the shifting social relations that constitute property or the actual practices being introduced under the PSA. Certain presumptions about what the "private property" relationship entails have concealed the greater restriction of access and narrower distribution of benefits. Even though the type of ownership may be unchanged, patterns of access are an entirely separate question. If privatization is taken to be the expansion of exclusionary practices and the consolidation of control over resources, it can be seen to be occurring in the case of the PSA, despite the ostensible pre-existence of private ownership.

As a conceptual basis for this claim, I presented theories on property, access, and accumulation. I argued that classical theories of property do not account for the myriad social relationships that determine access and that "primitive accumulation" requires more than the acquisition of formal rights to property. A focus on property rights alone does not adequately explain the division of benefits in society. Without the ability to deny access to others, accumulation remains incomplete. If property is claimed by an individual, but full control of access is not held, the opportunity for

further consolidation of private control remains. In other words, privatization has more to do with the re-negotiation of relative shares of benefits than the re-distribution of formal property rights. The claim I made was that a broader conception of privatization is required so that the effect of market-based conservation on "already neoliberal" economies is not overlooked. Privatization, I suggested, should be interpreted as the individual accumulation of the ability to benefit, rather than simply the individual accumulation of formal rights to property.

In the case of Costa Rica, I demonstrated that what has historically been referred to as private property, has actually allowed considerable usufruct access. While Costa Rica has a comparatively high degree of privately owned small-parcel lands, absolutist notions of domain and control have not been prevalent. The flexibility of these ownership norms, however, is commonly overlooked by those evaluating the country's payments for ecosystem services scheme. Conventional logic holds that Costa Rica's property situation makes it ideally suited for PES and that implementation does no harm because no change of ownership is required.

As I showed, however, the practices being introduced under the PSA are leading to an expansion of exclusionary management. Not only are participating landowners required to manage their land in the agreed upon way, they must act as enforcement agents and deny access to others. This establishes an entirely new regime of ownership practices that run counter to what has existed historically. The result is vastly more adversarial social relationships and the accumulation of benefits among an ever-narrower segment of the population, regardless of how individual owners might have chosen to manage their land absent the PSA. The program is, in effect,

disciplining landowners to behave in ways that are consistent with capitalist notions of rational self-interested profit-maximizing actors. This is, of course, what enables the continued expansion of capitalism into the realm of environmental conservation (Robertson 2012). As landowners are taught to bring resources under their control and exclude others from accessing the benefits, land is transformed from a resource that sustains community well-being into an abstract "service commodity" that should be circulated through the economy for personal gain (Robertson 2012).

What this case primarily demonstrates, however, is the actual effects of the private ownership model that is favored by market proponents (e.g. Pagiola 2008; Wunder 2005; Engel et al. 2008). Programs that promote conservation by incentivizing exclusionary management corrode social cohesion and contribute to the expansion of wealth disparity. More importantly, this case shows that such programs cannot be assumed to be benign simply because they are applied in areas where "private" ownership already predominates. The question of *how* the commodification of ecosystem services is affecting the lives of actual communities in areas already "lost" to neoliberalization is essential for recognizing why it must be resisted. While Robertson (2012) may be correct that defining the problem with making payments for ecosystem services on "already privatized" lands may be difficult, I believe that a nuanced understanding of local conditions will inevitably reveal detrimental implications. As I showed, the meaning of private property is not universal, and the type of practices that are encouraged by these programs can exacerbate existing inequities. Certainly, we need to understand PES "as part of the larger process of rendering surplus value" (Robertson 2012, 397), but we must also reveal exactly why it *is* a problem in "already neoliberal" economies.

CHAPTER VIII

Conclusion

This thesis has been a historical study of one of the most significant and influential programs to develop PES worldwide. It has demonstrated the contradictory nature of neoliberalism and the fragmented way in which it operates. Unlike most studies that approach PES from an implementation-oriented perspective that evaluates and prescribes "best practices", I have engaged critically with the policies to understand not only the program's material implications, but also the conceptual insights that it provides. I have employed theories on neoliberalization and capitalist development to get a handle on the underlying economic drivers of the push to financialize conservation. And I have, in turn, spoken back to those theories to contribute to our understanding of neoliberalism itself and the conditions of contemporary capitalism at its newest frontiers.

In Chapter 2, I laid out the conceptual basis for this thesis. I explained that I allied with the critically-oriented literature that remains cautious of new financialized approaches to conservation and skeptical of their grand promises. Drawing on concepts concerning the neoliberalization of nature, I adopted an analytical framework that would orient my treatment of PES towards fundamental questions of social and ecological justice – who controls what resources, how, for what purposes, and to whose ultimate benefit?

I distinguished between neoliberal*ism*, a coherent ideology, and neoliberal*zation*, an incomplete and ever-adapting process. It is a distinction that is, by now, well-

established among critical scholars (e.g. Castree 2008a; Peck and Tickell 2002; Brenner and Theodore 2002; Bakker 2010; Larner 2000). From this perspective, "ideal type" neoliberalism (which entails privatization, marketization, deregulation, re-regulation, etc) is an abstraction that never actually exists in pure form. Neoliberalization, by contrast, is the "actually existing" (Brenner and Theodore 2002) manifestation of neoliberalism that may be observed in practice. It operates in partial and unfinished ways and may even exist simultaneously alongside overtly non-neoliberal practices. As I explained, however, this disjointed character can make identifying neoliberalization rather challenging, as its manifestations are frequently ideologically fragmented and divergent across space and time.

The distinction between neoliberalism and neoliberalization also poses conceptual challenges, as it presents scholars with understandings that are, on the one hand, "monolithic and omnipresent" and, on the other, "excessively concrete and contingent" (Peck and Tickell 2002, 381-382). While the former risks an overly generalized understanding of neoliberalism that has no practical expression, the latter "may downplay neoliberalism as an extra-local project" (McCarthy and Prudham 2004, 276). As Castree explains, we require a means of steering "between the 'dead-end' of idiographic analysis and the perils of overly universal understandings of how nature is neoliberalised" (2008b, 161).

In this conclusion, I re-visit the question of how to connect localized expressions of neoliberalization to the broader "neoliberal project". With recourse to the internal contradictions of capital discussed in Chapter 1, I explain how "idiographic" analyses may be bound together by the logics of capital that govern neoliberalization.

Essentially, I make the case that the internal contradictions of capital are responsible for the particular (locally- and politically-specific) forms of neoliberalization that emerge in capitalist development, and I explain how this provides coherence to the concept of neoliberalism as an (extra-local) project. First, however, I recap my engagements with the neoliberalization of nature in Costa Rica's PSA, in order to provide context and empirical grounding to my conceptual claims.

Neoliberalizing Costa Rican Nature

My three points of engagement with the neoliberalization of Costa Rican nature provide much more than a simple exemplification of neoliberalism-in-action; they reveal important things about the nature of neoliberalism itself and the way it operates in partial and perpetually unfinished ways. These are i) neoliberalism is self-contradictory in that markets can rarely stand on their own, thus requiring active development and state support; ii) neoliberalism is fragmented and often integrated with non-neoliberal practices; and iii) neoliberalism is crisis-prone because of its internal contradictions and, thus, is constantly in search of new outlets for growth and accumulation. My empirical engagements situate these observations in actual context. While they are, by no means, a perfect or pure representation of neoliberal ideals (or even of the neoliberal vision articulated for the PSA program) they are a clear manifestation of an actively unfolding process of neoliberalization. Additionally, these three points of engagement demonstrate how, by directing the critical gaze at pressing justice considerations, it is possible to identify the crucial junctures at which neoliberal policies push through ostensibly non-neoliberal practices. They are summarized in turn below.

PSA Financing

As I explained in Chapter 5, the evolution of PSA financing constitutes an ongoing process of neoliberalization. The shift from taxation to "user fees" reoriented the program away from state-centered support of responsible ecosystem management, towards direct financial transactions between users and providers of ecosystem services. With markets clearly envisioned to be the foundation of the PSA (Sage and Sanchez 2002), the initial tax was interpreted as an effort to kickstart exchange (Fletcher and Breitling 2012). When markets failed to arise, however, the government took action to facilitate their development. I showed that this took place through a complex process of political and inter-agency maneuvering that resulted in a new tariff on water usage. Short of the ability to create actual markets, public financing was re-designed to behave according to market logic.

The government's effort to establish the tariff began in a partnership with the World Bank. In need of institutional development funds and driven by a mandate to expand the PSA budget, FONAFIFO sought support through a "medium-sized project" grant from the Global Environment Facility (GEF). In order to meet the GEF's co-financing requirements, however, FONAFIFO and the Ministry of Environment had to secure loans from the World Bank. Two separate projects – "Ecomarkets" and MMBI (aka "Ecomarkets II") – were established. In total the World Bank lent over $62 million, the GEF granted $18 million, and the PSA budget expanded by 107x over the initial medium-sized project request.[90] Given this substantial investment, the Bank was ensured significant influence over PSA development.

90 Ecomarkets included loans in the amount of $32.6 million and grants in the amount of $8 million (World Bank 2000a). MMBI included loans in the amount of $30 million and grants in the amount of $10 million (World Bank 2006). The initial "medium-sized project" grant request was $750,000.

When, in 2002, the Ministry of Environment decided to expand the PSA, the World Bank was able to exercise its influence and encourage market development. The Ministry had intended to expand the PSA by developing a second tax revenue stream, this time on water pollution, in addition to the earlier tax on fossil fuel consumption (Rodriguez, interview, 14 Feb 2012). The Bank, however, wanted to see the new revenue stream reflect the concept of user fees (Khouri, interview, 5 Dec 2011),[91] and after "many many conversations", the Environment Minister was persuaded (Platais, interview, 23 Feb 2012).[92] The final tariff mandate contained language stipulating that revenues from fees would have to be used within the watershed in which they were generated, establishing more direct correspondence between "users" and "providers" of ecosystem services.

While the tariff certainly does not constitute a market in any conventional sense, it represents an attempt by the government of Costa Rica and its World Bank partners to approximate market relationships. It is the expression of a (partial and unfinished) process of neoliberalization. In the absence of a "true" market for ecosystem services (which would increase the exchange value of nature), there was a danger that ecosystems would actually be *de*valued by the very mechanisms that were supposed to ensure their conservation. In response, the state was forced to intervene and create

91 Nadim Khouri, task team leader for the Bank during the proposal phase of Ecomarkets II, explained that the PSA had succeeded in establishing half of the direct financial relationship (i.e. "service providers" were receiving payment), but the program had not yet achieved the ideal outcome by ensuring that it was the "service users" that were the ones paying (Khouri, interview, 5 Dec 2011).

92 Gunars Platais, a member of the World Bank team, explained that eventually the Minister of Environment "took [the idea of user fees] and really went with it" (Platais, interview, 23 Feb 2012). Franz Tattenbach, founder of FUNDECOR and an important actor in PSA development, affirmed that "the water legislation had a lot to do with [the World Bank's] push" (Tattenbach, interview, 30 Jan 2012).

the "market" so that ecosystem services could hold some level of proxy value in exchange. The result was a form of state-led neoliberalization. As Harvey (2014) explains, state interventions are often deployed to correct for such market failures, but "[w]hile these interventions may seem progressive, their effect is to further promote the penetration of market processes and market valuations into all aspects of our lifeworld" (Harvey 2014, 250).

PSA Contracting

In Chapter 6, I explored two scalar shifts within PSA contracting to understand how the tensions between competition and cooperation were mediated, and to understand what effect this had on the distribution of program benefits. I drew on Marxist theories of the "coercive laws of competition" to explain how profit-seeking in the name of economic efficiency diminishes social and environmental responsibility.

I showed that a series of moves initiated by a new market-oriented faction within the Ministry of Environment during the 1990s led to the privatization of forestry work and the erosion of "social forestry" policies. Private *regentes* were encouraged to pursue maximum profit as independent contractors, under the assumption that it would lead to greater efficiency through competitive downward bidding. The result, however, was an uneven decline in contracting fees, due to the fact that lower rates were only possible on larger contracts. *Regentes* will compete for lucrative large contracts, but they are forced to charge high (sometimes illegally high) rates to small landowners.

Further to the uneven decline of rates, I showed that the competitive system gave rise

to other undesirable consequences by edging out alternative motivations for conservation, undermining resistance to profit-oriented decision making, and fostering self-interest among forestry workers. Organizations that operated under social imperatives lost institutional supports that guaranteed their operations, were drawn into the business of competitive contracting, or were simply out-competed. Thus, I showed the coercive laws of competition not only deliver advantages to larger landowners, they actively erode existing support for smaller ones.

In a second scalar shift (away from cooperative participation in the PSA) small owners again suffered competitive disadvantages as contracting was de-collectivized. A form of group contracting, developed early in the program to help small landowners with the high fixed-costs of participation, was revised to culminate in individual contracts. Grouping thus became little more than a temporary recruitment tool applied by development organizations to streamline operations. The result, I showed, was higher *regente* rates and lower net-payments, relative to larger landowners. Nominally, competition provides efficiency gains, but this can only be seen to be beneficial if who may access the PSA is completely ignored; average *regente* rates have declined, but this has been achieved by encouraging *regentes* to work with those landowners for whom discounts are possible.

PSA and Property

Finally, in Chapter 7 I explored the effect of the PSA on property relations. I explained that the program was encouraging an expansion of exclusionary land management practices in what is essentially the privatization of "already private" resources. I placed these claims in the context of historical patterns of land

ownership, the long tradition of informal possession, and broad usufruct access. Although Costa Rica is commonly assumed to have widespread private ownership (Chomitz et al. 1999), exclusive access has not historically been the norm. I explained how a superficial understanding of "private property", and what that relationship entails, is obscuring the ways that the PSA is narrowing access to resources and the benefits they provide.

Under the PSA, participants are obliged to manage their lands in ways that contrast sharply with the practices that have long existed. This included the obvious transition from extraction-oriented management to conservation-oriented management, but it also saw the rise of exclusionary practices that re-define many rural social relations. Participation in the PSA, I explained, requires that landowners monitor and report extraction violations, transforming neighbors into forest guards and masters of exclusive domains. Not only are participating landowners required to manage their land according to their contracts, they must act as enforcement agents and deny access to others. Whereas "unused" lands have historically allowed broad access to the wider community, management under the PSA consolidates access under the control of the legal owner. The effect of the PSA on rural property relations is, thus, narrower control and the accumulation of benefits to a smaller segment of the population.

Rethinking the Political Economy of PES

There are, of course, very practical reasons that these neoliberal developments should be understood, but beyond immediate resource management concerns, the neoliberalization that has taken root in Costa Rica speaks to the conceptual ground I

staked out in this thesis. Namely, it offers insight to the ways that we may connect localized expressions of neoliberalization to the broader patterns of governance that constitute this era of neoliberal environmentalism. As I explained in Chapter 2, critical scholars of nature's neoliberalization have grappled with this issue, offering several ways to conceptualize "the more generic and abstract features of the neoliberalization process" (Peck and Tickell 2002, 382).

The concern for these scholars is with understanding "the variable ways in which different 'local neoliberalisms' are embedded within wider networks and structures of neoliberalism" (Peck and Tickell 2002, 380). In order to handle this tension between the generalized and particular conceptions, Brenner et al. (2010) formulate "variegated neoliberalization". As they explain, the variegated conception allows neoliberalization processes to be seen as "*simultaneously* patterned, interconnected, locally specific, contested, and unstable" (Brenner et al. 2010, 184). While this is an effective means of handling the concepts, it is, to my view, an unnecessary theoretical innovation. Castree (2008a; 2008b), by contrast, utilizes an ideal-type conception of neoliberalism as a means of bringing coherence to disparate instances of neoliberalization. As I explained previously, I find Castree's approach rather more direct and conceptually more straightforward and, thus, align my analysis with his perspective.

I understand neoliberalism as an ideology – a belief system to which people subscribe – but I appreciate that practical manifestations of this ideology are only ever expressed as *partial and incomplete* neoliberalizations. The ideology of neoliberalism, of course, varies from person to person and context to context, but as a

(loosely bound) set of principles, it provides the basic vision underlying the neoliberalization process. The process itself, in turn, unfolds in the context of the conditions that capital produces. And, as I suggested in the introduction to this thesis, it is the internal contradictions of capital that are (largely) responsible for the particular form of neoliberalization that emerges. An understanding of the contradictions of capital, thus, can provide an explanation of how neoliberalization unfolds in locally and politically specific contexts. What I am suggesting here is that disparate instances of neoliberalization (and "idiographic" analyses of them) are bound together by the logics of capital that govern the process.

In particular, it is the contradictory logic of providing use values through exchange value structures that underlies the neoliberalization of payments for ecosystem services. The principal assumption of PES is that exchange of ecosystem service commodities can increase the value of nature beyond the immediate value of its material resources, making conservation the economically rational, indeed *profitable*, management option. The difficulty, however, is in getting these exchange values to "stick", which requires that ecosystem services circulate in markets. Service commodities that are "weakly comparable" (Martinez-Alier et al. 1998) or "uncooperative" (Bakker 2004), however, may actually be *de*valued in an exchange value system, presenting an internal contradiction of PES that makes it inherently crisis-prone. If service commodities are unsuitable for exchange, attempts to apply valuation may actually exacerbate the hazard to nature, exposing it more fully to the brutal logic of market rationality.

Furthermore, as I have observed in Costa Rica, there is frequently a disconnect in

PES between the ecosystem being valued and the actual commodities that are exchanged. If hydrological services (e.g. filtration and flow control) are the target, it is not the ecosystem that gets valued, but rather the water itself. In Costa Rica, water concession holders are charged user fees to pay for conservation that enhances natural hydrological systems, but the connection is indirect and mediated by the consumption of water. Water is the commodity, not the watershed. The situation is even more stark in the case of the fuel tax originally levied on fossil fuel consumers. In either case, there is no actual exchange of ecosystem services, meaning that ecosystems do not actually *hold* an exchange value.

In order to sustain PES in the face of this use and exchange value contradiction, intervention is required. Markets must be propped up, or else devalued ecosystem services would be lost to competing uses.[93] In an effort to foster exchange value, Costa Rica developed the water tariff as a market-like financing mechanism. Designed to approximate direct transactions between "users" and "providers" of ecosystem services, it is the closest alignment of policy to neoliberal ideology that market-oriented factions could achieve. It is in this response to the exchange value contradiction that we see how neoliberalization is shaped by the internal logics of capital. The neoliberal ideal would have been complete marketization of ecosystem functions, but the exchange value contradiction prevented it. The neoliberalization process responded to the contradictions of capital and produced the closest approximation possible. The significance of these observations is in the way capital has produced the characteristics of the neoliberalization that has unfolded. Capital

93 This is actually the argument that is made by advocates of PES – ecosystems are degraded because they are "undervalued" – but, here, I am suggesting that market valuation becomes a necessity, rather than just an ideological preference. Once the logics of capital are embedded, ecosystems are fully exposed to the brutal logic of market rationality.

produces the particular breed of neoliberalism that emerges in specific locations.

Even though, as I suggested in Chapter 5, the tariff "market" is still likely to result in uneven patterns of conservation-development, opportunities for accumulation remain limited relative to "true" markets where exchange value is entirely unbound from use value. The market-like mechanisms for exchange introduced by the state do not offer the same opportunities for speculative accumulation that are presented in capitalist circulation directly. Since accumulation cannot be maximized under these conditions, opportunities must be sought elsewhere. Essentially, when confronted by the contradiction of use and exchange value in PES, the problems of capital are simply, to borrow the phrase of Harvey (2014), "moved around".

In order to continue facilitating capitalist development despite any real circulation of commodities, neoliberalization must expand to other aspects of production. This can be achieved, for example, by strategically introducing competition, selectively reducing cooperation, or reconfiguring property relationships. In Costa Rica, I showed that the neoliberalization process responded to the exchange value contradiction by restoring opportunities for accumulation in the forestry labor market and property regimes (the focus of Chapters 6 and 7); competitive PSA contracting ensured large landowners captured the greatest benefits, individualized participation shifted contracting advantages away from small landowners, and the expansion of exclusionary land management consolidated control of resources in the hands of landed individuals. Neoliberalization unfolded in the context of the internal contradictions of capital and then responded by shifting target when accumulation stalled.

Scholarship, Action, and Resistance

The conceptual arguments developed in this thesis are intended to facilitate the recognition of neoliberalization in action and enable critical appraisal of its implications. This is important because it helps to expose the false promises of the win-win and triple-win rhetoric that is driving the spread of capitalist ideology throughout conservation and environmental governance. It problematizes the claims of market apologists and frustrates the ambitions of market advocates. The conceptual frameworks to which I am contributing are the infrastructure of the critiques that have flourished in recent years (e.g. McAfee and Shapiro 2010; Robertson 2012; Buscher 2012; Sullivan 2012; McAfee 2012). Almost as rapidly as the ideas are introduced, critiques are delivered, de-stabilizing the footing on which they stand.

Resistance to the colonization of conservation by capital is indeed making inroads. This is evident in the pace at which concepts are cycled through the consciousness of economically-oriented conservation scholars and practitioners. When I began this research, not all that long ago, ecosystem services was touted with frenzied excitement – it was a panacea, a "magic elixir" that would finally solve our environmental woes – but already, by this point, the sheen has started to wear. Indeed, "natural capital" is emerging as the favored substitute. Payment schemes based on ecosystem services were cast as the solution to environmental decline, and various offshoots such as REDD (Reducing Emission for Deforestation and Forest Degradation) were ambitiously promoted as their logical extension. But already, as I recently observed at the World Parks Congress in Sydney, they have fallen from

fashion, and "natural capital accounting" has risen to take their place. The mutation of one into the other is, in itself, an intriguing development, but it also reveals the short staying-power that these capitalist strategies have. They seem to fall as quickly as they rise. Critique is having this effect. Critique is playing a pivotal role in the short shelf life of these concepts; it is disrupting the optimistic narratives, and it is undermining their legitimacy. Often dismissed as irrelevant compared to direct action, critique *is* making a difference, and this thesis, in itself, is an act of resistance.

In response to the frequency with which scholarly resistance and academic critique is delivered, frustrated supporters often proclaim that these capitalist tools are the best we have, that we must act (and do so with urgency!) or else all will be lost. I routinely have this sentiment directed at me by implementation-oriented colleagues and practitioners with whom I engage and/or come into conflict. The ecological problems we face are urgent indeed, but this mentality of "don't think, just do" is reckless. These voices would have us abandon critique and throw all effort behind pursuit of "best practices". For those whose interests these concepts serve, this is certainly the favored course of action, but it demonstrates a complete lack of recognition of the politics inherent to conservation decisions and a disregard for their justice implications. With an understanding of scholarship as resistance, however, it is possible to imagine a path forward in which there is a radical divergence from the status quo.

As the flaws in these concepts are exposed and the seeds of doubt are sown, the uncritical flock to the next big-idea-in-waiting. And in this, there is opportunity. If critique can be sustained while an anti-capitalist strategy is developed, we can

prevent further entrenchment of hegemonic notions while building a new counter-hegemonic "common sense" for environmental governance. This was understood by Milton Friedman and the architects of our current neoliberal system. Eventually, the material conditions that enable the present system will change, and at that moment, we must be ready with a radically different alternative. The challenge will be to sustain the critique while promoting and developing such alternatives. This effort, however, is already well underway. Contrary to what the champions of market-based conservation so frequently (and so forcefully) proclaim, the foundations of these alternatives exist today.

They are based in practices and ideologies that make social justice and equity central. Chief among them is the concept of de-growth (Demaria et al. 2013; D'Alisa et al. 2014), which has developed into an impressive movement of both scholars and activists. Beyond this there is a diversity of concepts – including steady-state economics (Czech and Daly 2014), re-commoning (www.recommon.org/eng/), ethics-based management (Azqueta and Delacamara 2006), and a not-for-profit or "social economy" (Connelly et al. 2011) – that may be drawn upon in building an alternative. Another future most certainly is possible. Indeed, another future is inevitable.

This thesis has been a historical study of active neoliberalization through "payments for ecosystem services". Rather than uncritically apply the concept (like so much of the implementation-oriented literature has done), I have sought to understand the processes by which it has become embedded in current policy. My primary focus has been on understanding how neoliberalization operates in practice (placing particular

emphasis on its incomplete and ever-adapting character), while explaining how the logics of capital shape the process itself. In light of the deceptively ambiguous way in which neoliberalization operates, I explained that pressing justice considerations – who controls what resources, how, for what purposes, and to whose benefit? – could be utilized to direct the critical gaze at the crucial junctures where neoliberal policies push through ostensibly non-neoliberal practices. This differs from much of the recent critical literature that emphasizes the ways the PES *deviates* from neoliberal doctrine (e.g. Dempsey and Robertson 2012; Fletcher and Breitling 2012; Shapiro-Garza 2013), enabling me to identify neoliberalization where others have missed it. Rather than emphasize the ways in which neoliberalization has failed to influence conservation policy, my handling of the concepts has placed attention on the ways it has taken root *in spite of* its apparent contradictions. This has opened the door for critique that challenges the new dominant modes of environmental governance, and it has produced opportunities for radical alternatives that place social and environmental justice ahead of economic accumulation and profit-maximization.

REFERENCES

ADAMS, W. 2013. *Against Extinction: The Story of Conservation*, Taylor & Francis.

AGRAWAL, A. 2005a. *Environmentality: Technologies of government and the making of subjects.,* Durham, Duke University Press.

ANDREASSON, S. 2006. Stand and Deliver: Private Property and the Politics of Global Dispossession. *Political Studies,* 54**,** 3-22.

ARIELY, D., BRACHA, A. & MEIER, S. 2009. Doing Good or Doing Well? Image Motivation and Monetary Incentives in Behaving Prosocially. *American Economic Review,* 99**,** 544-555.

ARRIAGADA, R. A., FERRARO, P. J., SILLS, E. O., PATTANAYAK, S. K. & CORDERO-SANCHO, S. 2012. Do Payments for Environmental Services Affect Forest Cover? A Farm-Level Evaluation from Costa Rica. *Land Economics,* 88**,** 382-399.

BAKKER, K. 2009. Neoliberal nature, ecological fixes, and the pitfalls of comparative research. *Environment and Planning A***,** 1781-1787.

BAKKER, K. 2010. The limits of 'neoliberal natures': Debating green neoliberalism. *Progress in Human Geography,* 34**,** 715-735.

BARBIER, E. B. & TESFAW, A. T. 2012. Can REDD+ Save the Forest? The Role of Payments and Tenure. *Forests,* 3**,** 881-895.

BEBBINGTON, A. 2004. NGOs and uneven development: geographies of development intervention. *Progress in Human Geography,* 28**,** 725-745.

BENNETT, K. & HENNINGER, N. 2008. Payments for Ecosystem Services in Costa Rica and Forest Law No. 7575. [Accessed 13 June 2011].

BHASKAR, R. 1989. *Reclaiming reality: a critical introduction to contemporary philosophy*, Verso.

BHASKAR, R. 2009. *Scientific realism and human emancipation*, Routledge.

BLACKMAN, A. & WOODWARD, R. T. 2010. User financing in a national payments for environmental services program: Costa Rican hydropower. *Ecological Economics,* 69**,** 1626-1638.

BOHLEN, P. J., LYNCH, S., SHABMAN, L., CLARK, M., SHUKLA, S. & SWAIN, H. 2009. Paying for environmental services from agricultural lands: an example from the northern Everglades. *Frontiers in Ecology and the Environment,* 7**,** 46-55.

BOOTH, J. A. 1998. *Costa Rica: quest for democracy*, Westview Press.

BOYD, W., PRUDHAM, W. S. & SCHURMAN, R. A. 2001. Industrial Dynamics and the Problem of Nature. *Society & Natural Resources,* 14**,** 555-570.

BRAUN, B. & CASTREE, N. 1998. *Remaking reality: nature at the millenium*, Routledge.

BRENNER, N., PECK, J. & THEODORE, N. I. K. 2010. Variegated neoliberalization: geographies, modalities, pathways. *Global Networks,* 10**,** 182-222.

BRENNER, N. & THEODORE, N. 2002. Cities and the Geographies of "Actually Existing Neoliberalism". *Antipode,* 34**,** 349-379.

BROCKETT, C. D. 1988. *Land, Power, and Poverty: Agrarian Transformation and Political Conflict in Central America,* Winchester, MA, Allen & Unwin, Inc.

BROCKINGTON, D. 2002. *Fortress Conservation*, James Currey.

BROCKINGTON, D. & DUFFY, R. 2010. Capitalism and Conservation: The Production and Reproduction of Biodiversity Conservation. *Antipode***,** 469-484.

BROCKINGTON, D. A. N. 2011. Ecosystem services and fictitious commodities. *Environmental Conservation,* 38**,** 367-369

BROWN, J. & BIRD, N. 2011. *Costa Rica's Sustainable Resource Management: Successfully Tackling Tropical Deforestation,* London, Overseas Development Institute.

CAMACHO, M., O. SEGURA, V. REYES, & A. AGUILAR, 2000. "Pago por Servicios Ambientales en Costa Rica". San Salvador, El Salvador: PRISMA.

CAMPBELL, F. 2006. *Keeping Costa Rica Green: The Profitability of Ecomarkets* [Online]. Available: http://gefweb.org/outreach/action/costa_rica_ecomarkets.html [Accessed 17 June 2011.

CARRILLO, E., SAENZ, J. C. & FULLER, T. K. 2002. Movements and activities of white-lipped peccaries in Corcovado National Park, Costa Rica. *Biological Conservation,* 108**,** 317-324.

CARRIÈRE, J. 1991. The Political Economy of Land Degradation in Costa Rica. *International Journal of Political Economy,* 21**,** 10-31.

CASTREE, N. 1995. THE NATURE OF PRODUCED NATURE: MATERIALITY AND KNOWLEDGE CONSTRUCTION IN MARXISM. *Antipode,* 27**,** 12-48.

CASTREE, N. 2001. Socializing Nature: Theory, Practice, and Politics. *In:* CASTREE, N. & BRAUN, B. (eds.) *Social Nature.* Malden, MA: Blackwell Publishing, Inc.

CASTREE, N. 2006. From neoliberalism to neoliberalisation: consolations, confusions, and necessary illusions. *Environment and Planning A,* 38**,** 1-6.

CASTREE, N. 2008a. Neoliberalising nature: processes, effects, and evaluations. *Environment and Planning A,* 40**,** 153-173.

CASTREE, N. 2008b. Neoliberalising nature: the logics of deregulation and reregulation. *Environment and Planning A,* 40**,** 131-152.

CASTREE, N. 2009. Researching neoliberal environmental governance: a reply to Karen Bakker. *Environment and Planning a***,** 1788-1794.

CASTREE, N. 2010a. Crisis, Continuity and Change: Neoliberalism, the Left and the Future of Capitalism. *Antipode,* 41**,** 185-213.

CASTREE, N. 2010b. Neoliberalism and the Biophysical Environment 1: What 'Neoliberalism' is, and What Difference Nature Makes to it. *Geography Compass,* 4**,** 1725-1733.

CASTREE, N. & BRAUN, B. 1998. The Construction of Nature and the Nature of Construction: Analytical and Political Tools for Building Survivable Futures. *In:* BRAUN, B. & CASTREE, N. (eds.) *Remaking Reality: Nature at the Millenium.* New York, NY: RoutLedge.

CASTREE, N. & BRAUN, B. 2001. *Social Nature: Theory, Practice, and Politics,* Malden, MA, Blackwell Publishing, Inc.

CAVANAGH, C, & T. BENJAMINSEN. 2014. "Virtual Nature, Violent Accumulation: Unpacking the 'Spectacular' Failure of Carbon Offsetting at a Ugandan National Park", *Geoforum,* 56, 55-65.

CHAVEZ, G., 1998. "World Bank president to sign ecological agreement". *La Nacion*. 3 March 1998 <http://wvw.nacion.com/ln_ee/1998/marzo/03/english3.html>. (Accessed: 17.7.2013).

CHOMITZ, K. M., BRENES, E. & CONSTANTINO, L. 1999. Financing environmental services: the Costa Rican experience and its implications. *The Science of The Total Environment,* 240**,** 157-169.

COASE, R. H. 1960. The Problem of Social Cost. *Journal of Law and Economics,* 3**,** 1-44.

CORSON, C. 2010. Shifting Environmental Governance in a Neoliberal World: USAID for Conservation. *Antipode,* 42**,** 576-602.

CORSON, C. & MACDONALD, K. I. 2012. Enclosing the global commons: the convention on biological diversity and green grabbing. *Journal of Peasant Studies,* 39**,** 263-283.

COSTANZA, R. & FOLKE, C. 1997. Valuing Ecosystem Services with Efficiency, Fairness, and Sustainability as Goals. *In:* DAILY, G. (ed.) *Nature's Services: Societal Dependence on Natural Ecosystems.* Washington DC: Island Press.

COWEN, M. P. & SHENTON, R. W. 1998. Agrarian doctrines of development: Part I. *The Journal of Peasant Studies,* 25**,** 49-76.

DAILY, G. C. (ed.) 1997. *Nature's services: societal dependence on natural ecosystems*: Island Press.

DAILY, G. C. 2000. Management objectives for the protection of ecosystem services. *Environmental Science & Policy,* 3**,** 333-339.

DAILY, G. C., SÖDERQVIST, T., ANIYAR, S., ARROW, K., DASGUPTA, P., EHRLICH, P. R., FOLKE, C., JANSSON, A., JANSSON, B.-O., KAUTSKY, N., SIMON, L., LUBCHENCO, J., MÄLER, K.-G., SIMPSON, D., STARRETT, D., TILMAN, D. & WALKER, B. 2000. The Value of Nature and the Nature of Value. *Science,* 289**,** 395-396.

DANIELS, A. E., BAGSTAD, K., ESPOSITO, V., MOULAERT, A. & RODRIGUEZ, C. M. 2010. Understanding the impacts of Costa Rica's PES: Are we asking the right questions? *Ecological Economics,* 69**,** 2116-2126.

DE CAMINO, R., SEGURA, O., GUILLERMO ARIAS, L. & PEREZ, I. 2000. *Costa Rica Forest Strategy and the Evolution of Land Use,* Washington D.C., World Bank.

EDELMAN, M. 1985. Extensive land use and the logic of the latifundio: A case study in Guanacaste Province, Costa Rica. *Human Ecology,* 13**,** 153-185.

ENGEL, S., PAGIOLA, S. & WUNDER, S. 2008. Designing payments for environmental services in theory and practice: An overview of the issues. *Ecological Economics,* 65**,** 663-674.

ENGELS, F. & MCLELLAN, D. 1993. *The Condition of the Working Class in England*, Oxford University Press.

ESCOBAR, A. 1996. Construction nature: Elements for a post-structuralist political ecology. *Futures,* 28**,** 325-343.

EVANS, S. 1999. *The green republic: a conservation history of Costa Rica*, University of Texas Press.

FAIRHEAD, J., LEACH, M. & SCOONES, I. 2012. Green Grabbing: a new appropriation of nature? *Journal of Peasant Studies,* 39**,** 237-261.

FARLEY, J. & COSTANZA, R. 2010. Payments for ecosystem services: From local to global. *Ecological Economics,* 69**,** 2060-2068.

FLETCHER, R. 2010. Neoliberal environmentality: Towards a poststructuralist political ecology of the conservation debate. *Conservation and Society,* 8**,** 171-181.

FLETCHER, R. & BREITLING, J. 2012. Market mechanism or subsidy in disguise? Governing payment for environmental services in Costa Rica. *Geoforum,* 43**,** 402-411.

FOUCAULT, M., SENELLART, M. & FRANCE, C. D. 2008. *The birth of biopolitics: lectures at the Collège de France, 1978-79*, Palgrave Macmillan.

GLASSMAN, J. 2006. Primitive accumulation, accumulation by dispossession, accumulation by 'extra-economic' means. *Progress in Human Geography,* 30**,** 608-625.

GOLDMAN, M. 2001. Constructing an Environmental State: Eco-governmentality and other Transnational Practices of a 'Green' World Bank. *Social Problems,* 48**,** 499-523.

GOULDER, L. & KENNEDY, D. 1997. Valuing Ecosystem Service: Philosophical Bases and Empirical Methods. *In:* DAILY, G. (ed.) *Nature's Services: Societal Dependence on Natural Ecosystems.* Washington DC: Island Press.

GUESS, G. 1978. Narrowing the Base of Costa Rican Democracy. *Development and Change,* 9**,** 599-611.

GÓMEZ-BAGGETHUN, E. & RUIZ-PÉREZ, M. 2011. Economic valuation and the commodification of ecosystem services. *Progress in Physical Geography,* 35**,** 613-628.

HARVEY, D. 2003. *The New Imperialism*, OUP Oxford.

HARVEY, D. 2005. *A Brief History of Neoliberalism*, Oxford University Press, UK.

HARVEY, D. 2010. *A Companion to Marx's Capital*, Verso.

HARVEY, D. 2014. *Seventeen Contradictions and the End of Capitalism*, Verso.

HEINDRICHS, T., 1997. "Innovative Financing Instruments in the Forestry and Nature Conservation Sector of Costa Rica". Eschborn, Germany: Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH.

HEYNEN, N. & ROBBINS, P. 2005. The neoliberalization of nature: Governance, privatization, enclosure and valuation. *Capitalism Nature Socialism,* 16**,** 5-8.

HODGE, I. D. & ADAMS, W. M. 2012. Neoliberalisation, rural land trusts and institutional blending. *Geoforum,* 43**,** 472-482.

HONEY, M. 2004. Giving a Grade to Costa Rica's Green Tourism. *In:* GMELCH, S. (ed.) *Tourists and Tourism.* Long Grove, IL: Waveland Press Inc.

HOPE, R., PORRAS, I., BORGOYARY, M., MIRANDA, M., AGARWAL, C., TIWARI, S. & AMEZAGA, J. 2007. Negotiating Watersheds. London: International Institute for Environment and Development.

HUNT, T. 2010. *Marx's General: The Revolutionary Life of Friedrich Engels,* New York, NY, Holt.

IGOE, J. & BROCKINGTON, D. 2007. Neoliberal Conservation: A Brief Introduction. *Conservation and Society,* 5**,** 432-449.

JESSOP, B. 2002. Liberalism, Neoliberalism, and Urban Governance: A State–Theoretical Perspective. *Antipode,* 34**,** 452-472.

JUNIPER, T. 2013. *What Has Nature Ever Done For Us?: How Money Really Does Grow On Trees*, Profile.

KATZ, C. 1998. Whose Nature, Whose Culture? *In:* BRAUN, B. & CASTREE, N. (eds.) *Remaking Reality: Nature at the Millenium.* New York, NY: Routledge.

KISHOR, N. & CONSTANTINO, L. 1993. Forest Management and Competing Land Uses: An Economic Analysis for Costa Rica. Washington DC: The World Bank Group.

KOSOY, N. & CORBERA, E. 2010. Payments for ecosystem services as commodity fetishism. *Ecological Economics,* 69**,** 1228-1236.

LANSING, D. M. 2013. Understanding linkages between ecosystem service payments, forest plantations, and export agriculture. *Geoforum,* 47**,** 103-112.

LARNER, W. 2003. Neoliberalism? *Environment and Planning D: Society and Space,* 21**,** 509-512.

LARNER, W. & CRAIG, D. 2005. After Neoliberalism? Community Activism and Local Partnerships in Aotearoa New Zealand. *Antipode,* 37**,** 402-424.

LINNER, B. 2003. *The return of Malthus: environmentalism and post-war population-resource crises,* Harris, UK, White Horse Press.

LOCKE, J. 1821. *Two Treatises on Government*, R. Butler.

LUKE, T. 1999. Environmentality as green governmentality. *In:* DARIER, E. (ed.) *Discourses of the Environment.* Oxford: Blackwell Publishers.

MANSFIELD, B. 2007a. Privatization: Property and the Remaking of Nature–Society Relations Introduction to the Special Issue. *Antipode,* 39**,** 393-405.

MANSFIELD, B. 2007b. Property, Markets, and Dispossession: The Western Alaska Community Development Quota as Neoliberalism, Social Justice, Both, and Neither. *Antipode,* 39**,** 479-499.

MARX, K. 1976. *Capital, Volume I,* New York, NY, Penguin Books.

MATULIS, B. S. 2013. The narrowing gap between vision and execution: Neoliberalization of PES in Costa Rica. *Geoforum,* 44**,** 253-260.

MCAFEE, K. 1999. Selling nature to save it? Biodiversity and green developmentalism. *Environment and Planning D: Society and Space,* 17**,** 133-154.

MCAFEE, K. 2012. The Contradictory Logic of Global Ecosystem Services Markets. *Development and Change,* 43**,** 105-131.

MCCARTHY, J. & PRUDHAM, S. 2004. Neoliberal nature and the nature of neoliberalism. *Geoforum,* 35**,** 275-283.

MCCAULEY, D. J. 2006. Selling out on nature. *Nature,* 443**,** 27-28.

MEA, 2003. "Millennium Ecosystem Assessment: Ecosystems and Human Well-Being". Washington, DC: Island Press.

MEA, 2005. "Millennium Ecosystem Assessment: Synthesis". Washington, DC: Island Press.

MIRANDA, M., PORRAS, I. & MORENO, M. 2003. Social Impacts of the Payments for Environmental Services (PES) Scheme in Costa Rica. London: International Institute for Environment and Development.

MIRANDA, M., PORRAS, I. & MORENO, M. 2004. Social Impacts of Carbon Markets in Costa Rica: a case study of the Hueter-Norte Region. London: International Institute for Environment and Development.

MORELL, M. 1997. Financing Community Forestry Activities. *Unasylva,* 188**,** 36-43.

MURADIAN, R., CORBERA, E., PASCUAL, U., KOSOY, N. & MAY, P. H. 2010. Reconciling theory and practice: An alternative conceptual framework for understanding payments for environmental services. *Ecological Economics,* 69**,** 1202-1208.

NASH, R. 2001. *Wilderness and the American Mind,* New Haven, CT, Yale University Press.

NAVARRO, G. & THIEL, H. 2007. On the Evolution of the Costa Rican Forestry Control System. Verifor.

O'CONNOR, J. 1988. Capitalism, nature, socialism a theoretical introduction∗. *Capitalism Nature Socialism,* 1**,** 11-38.

ORTIZ MALAVASI, E. 2011. Caracterización del Programa Forestal Huetar Norte (PFHN): Impacto social y fijación de C02. FONAFIFO.

PAGIOLA, S. 2008. Payments for environmental services in Costa Rica. *Ecological Economics,* 65**,** 712-724.

PAGIOLA, S., ARCENAS, A. & PLATAIS, G. 2005. Can Payments for Environmental Services Help Reduce Poverty? An Exploration of the Issues and the Evidence to Date from Latin America. *World Development,* 33**,** 237-253.

PAGIOLA, S., BISHOP, J. & LANDELL-MILLS, N. 2002. *Selling Forest Environmental Services: Market-Based Mechanisms for Conservation and Development*, Taylor & Francis.

PAGIOLA, S., & G. PLATAIS, 2002. "Payments for Environmental Services". *Environment Strategy Notes*. Washington DC: The World Bank Group.

PAGIOLA, S. & PLATAIS, G. 2007. Payments for Environmental Services: From Theory to Practice. Washington: World Bank.

PECK, J. 2004. Geography and public policy: constructions of neoliberalism. *Progress in Human Geography,* 28**,** 392-405.

PECK, J. 2010. Zombie neoliberalism and the ambidextrous state. *Theoretical Criminology,* 14**,** 104-110.

PECK, J. & TICKELL, A. 2002. Neoliberalizing Space. *Antipode,* 34**,** 380-404.

PEET, R. & WATTS, M. 1996. *Liberation ecologies: environment, development, social movements,* New York, NY, Routledge.

PERC, 2014a. "About Us". <http://perc.org/about-us> (Accessed: 14 May 2014).

PERC, 2014b. "What is FME?". <http://perc.org/about-perc/what-fme> (Accessed: 14 May 2014).

PERC, 2014c. "PERC Enviropreneur Institute". <http://perc.org/programs/perc-enviropreneurs/enviropreneur-institute> (Accessed: 14 May 2014).

PERC, 2014d. "Overview". <http://perc.org/programs/perc-enviropreneurs/enviropreneur-institute/about> (Accessed: 14 May 2014).

POLANYI, K. 1944. *The Great Transformation,* Boston, MA, Beacon Press.

PORRAS, I. 2010. Fair and Green? Social impacts of payments for environmental services in Costa Rica. London: International Institute for Environment and Development.

PORRAS, I., N. NEVES, & M. MIRANDA, 2006. "Developing Markets for Watershed Protection Services and Improved Livelihoods". London: International Institute for Environment and Development.

PORRAS, I., & N. NEVES, 2006. "Markets for Watershed Services". London: International Institute for Environment and Development.

PROCTOR, J. D. 1998. The social construction of nature: Relativist accusations, pragmatist and critical realist responses. *Annals of the Association of American Geographers,* 88**,** 352.

PRUDHAM, S. & HEYNEN, N. 2011. Introduction: Uneven Development 25 Years On: Space, Nature and the Geographies of Capitalism. *New Political Economy,* 16**,** 223-232.

REDCLIFT, M. 2005. Sustainable development (1987–2005): an oxymoron comes of age. *Sustainable Development,* 13**,** 212-227.

REDFORD, K. H. 1992. The empty forest. (cover story). *BioScience,* 42**,** 412-422.

REDFORD, K. H. & ADAMS, W. M. 2009. Payment for Ecosystem Services and the Challenge of Saving Nature. *Conservation Biology,* 23**,** 785-787.

RIBOT, J. C. 1998. Theorizing Access: Forest Profits along Senegal's Charcoal Commodity Chain. *Development & Change,* 29**,** 307.

RIBOT, J. C. & PELUSO, N. L. 2003. A Theory of Access*. *Rural Sociology,* 68**,** 153-181.

ROBERTS, J. T. & THANOS, N. D. 2003. *Trouble in paradise*, ROUTLEDGE CHAPMAN & HALL.

ROBERTSON, M. 2012. Measurement and alienation: making a world of ecosystem services. *Transactions of the Institute of British Geographers,* 37**,** 386-401.

RODRÍGUEZ ZÚÑIGA, J. M. 2003. Paying for Forest Environmental Services: the Costa Rican Experience. *Unasylva,* 54**,** 31-33.

ROJAS, M. & AYLWARD, B. 2003. What are we learning from experiences with markets for environmental services in Costa Rica? A review and critique of

the literature. London: International Institute for Environment and Development.

ROSE, G. 1997. Situating knowledges: positionality, reflexivities and other tactics. *Progress in Human Geography,* 21**,** 305-320.

SAGE, L. & SANCHEZ, O. 2002. Evolucion esperada para el mercado de pago de servicios ambientals en Costa Rica. *Revista Forestal Centroamericana,* 37**,** 72-73.

SAYER, A. 1995. *Radical Political Economy: Critique and Reformulation*, Wiley.

SCHOMERS, S. & MATZDORF, B. 2013. Payments for ecosystem services: A review and comparison of developing and industrialized countries. *Ecosystem Services,* 6**,** 16-30.

SELIGSON, M. A. 1980. Trust, Efficacy and Modes of Political Participation: A Study of Costa Rican Peasants. *British Journal of Political Science,* 10**,** 75-98.

SIERRA, R. & RUSSMAN, E. 2006. On the efficiency of environmental service payments: A forest conservation assessment in the Osa Peninsula, Costa Rica. *Ecological Economics,* 59**,** 131-141.

SILLS, E., HARTSHORN, G., FERRARO, P. & SPERGEL, B. 2005. Evaluation of the World Bank-GEF Ecomarkets Project in Costa Rica. North Carolina State University.

SILVA, E. 2003. Selling Sustainable Development and Shortchanging Social Ecology in Costa Rican Forest Policy. *Latin American Politics & Society,* 45**,** 93-127.

SILVERMAN, D. 2007. *A very short, fairly interesting and reasonably cheap book about qualitative research*, SAGE.

SKROCH, M. & LÓPEZ-HOFFMAN, L. 2010. Saving Nature under the Big Tent of Ecosystem Services: a Response to Adams and Redford. *Conservation Biology,* 24**,** 325-327.

SKUTCH, A. 1971. *A Naturalist in Costa Rica,* Gainsville, FL, University of Florida Press.

SMITH, N. 2003. Remaking Scale: Competition and Cooperation in Pre-National and Post-National Europe. *State/Space.* Blackwell Publishing.

SMITH, N. 2007. Nature as Accumulation Strategy. *Socialist Register,* 43**,** 16-36.

SMITH, N. 2008. *Uneven Development: Nature, Capital, and the Production of Space*, University of Georgia Press.

STALLINGS, B. & PERES, W. 2000. *Growth, employment, and equity: the impact of the economic reforms in Latin America and the Caribbean*, United Nations, Economic Commission for Latin America and the Caribbean.

SUKHDEV, P., 2014. "Valuing Natural Capital: What Next and Why?". The Huffington Post. 22 April 2014 <http://www.huffingtonpost.com/pavan-sukhdev/valuing-natural-capital-w_b_5193610.html> (accessed: 14 May 2014).

SULLIVAN, S. 2009. Green Capitalism and the Cultural Poverty of Constructing Nature as Service Provider. *Radical Anthropology***,** 18-27.

SWYNGEDOUW, E. 2005. Dispossessing H2O: the contested terrain of water privatization. *Capitalism Nature Socialism,* 16**,** 81-98.

SÁNCHEZ-AZOFEIFA, G. A., PFAFF, A., ROBALINO, J. A. & BOOMHOWER, J. P. 2007. Costa Rica's Payment for Environmental Services Program: Intention, Implementation, and Impact. *Conservation Biology,* 21**,** 1165-1173.

TACCONI, L. 2012. Redefining payments for environmental services. *Ecological Economics,* 73**,** 29-36.

VATN, A. 2010. An institutional analysis of payments for environmental services. *Ecological Economics,* 69**,** 1245-1252.

VIVANCO, L. 2003. Conservation and Culture, Genuine and Spurious. *In:* MINTEER, B. & MANNING, R. (eds.) *Reconstructing Conservation.* Washington D.C.: Island Press.

VIVANCO, L. A. 2006. *Green Encounters: Shaping And Contesting Environmentalism in Rural Costa Rica*, Berghahn Books, Incorporated.

VON PLATEN, H. 1999. Payments for environmental services: a new slogan for old incentives or a new economic concept? *Gesellschaft fur Agrarprojekte,* 4**,** 21-30.

WATSON, V., CERVANTES, S., CASTRO, C., MORA, L., SOLIS, M., PORRAS, I. & CORNEJ, B. 1998. Making Space for Better Forestry. London: International Institute for Environment and Development.

WEBER, M. 2007 [1904]. 'Objectivity' in Social Science. *In:* CALHOUN, C., GERTEIS, J., MOODY, J., PFAFF, S. & VIRK, I. (eds.) *Classical Sociological Theory.* 2nd ed. Malden, MA: Blackwell Publishing.

WHITTINGTON, D. & PAGIOLA, S. 2011. Using Contingent Valuation in the Design of Payments for Environmental Services Mechanisms: A Review and Assessment.

WILSON, B. M. 1998. *Costa Rica: Politics, Economics, and Democracy*, Lynne Rienner Publishers.

WOLFORD, W. 2007. Land Reform in the Time of Neoliberalism: A Many-Splendored Thing. *Antipode,* 39**,** 550-570.

WORLD FORUM, 2013. "About". <http://www.naturalcapitalforum.com/about> (Accessed: 6 May 2014).

WUNDER, S. 2005. *Payments for Environmental Services: Some Nuts and Bolts, Occasional Paper No. 42,* Bogor Barat, Indonesia, Center for International Forestry Research.

WUNDER, S. 2008. Payments for environmental services and the poor: concepts and preliminary evidence. *Environment and Development Economics,* 13**,** 279-297.

WUNDER, S., ENGEL, S. & PAGIOLA, S. 2008. Taking stock: A comparative analysis of payments for environmental services programs in developed and developing countries. *Ecological Economics,* 65**,** 834-852.

WÜNSCHER, T., ENGEL, S. & WUNDER, S. 2008. Spatial targeting of payments for environmental services: A tool for boosting conservation benefits. *Ecological Economics,* 65**,** 822-833.

WWF, 2014. "Valuing Nature". *World Wildlife Federation – Initiatives*. <http://worldwildlife.org/initiatives/valuing-nature> (Accessed: 14 May 2014).

YASHAR, D. 1997. *Demanding Democracy: Reform and Reaction in Costa Rica and Guatemala, 1870s-1950s*, Stanford University Press.

ZBINDEN, S. & LEE, D. R. 2005. Paying for Environmental Services: An Analysis of Participation in Costa Rica's PSA Program. *World Development,* 33**,** 255-272.

ZHANG, W. E. I. & PAGIOLA, S. 2011. Assessing the potential for synergies in the implementation of payments for environmental services programmes: an empirical analysis of Costa Rica. *Environmental Conservation,* 38**,** 406-416

Policy and Project Documents

CI, 2011. "Strengthening the Water Payments for the Environmental Services Program in Costa Rica: Proposal for Technical Cooperation between Conservation International and the Government of Costa Rica". *Conservation International*.

COLEGIO, 2011a. "Valor de visita regencial". *Colegio de Ingenieros Agronomos*, Costa Rica.

COLEGIO, 2011b. "Cuotas por visita según modalidad". *Colegio de Ingenieros Agronomos*, Costa Rica.

DECREE 37784-MTSS, 2013. "Fijacion de Salarios Minimos Para el Sector Privado". San Jose, CR: Government of Costa Rica. <http://www.gaceta.go.cr/pub/2013/07/10/COMP_10_07_2013.html#_Toc361153395>.

FONAFIFO, 2005. "Over a decade of action". San Jose, CR: Ministry of Environment and Energy, Costa Rica.

FONAFIFO, 2010. "Montos Asignados por Hectareas para el Pago de los Servicios Ambientales, 1997-2010". San Jose, CR: Ministry of Environment and Energy, Costa Rica. <http://www.fonafifo.go.cr/text_files/servicios_ambientales/MontosAsignadosHaArb1997-2010.pdf> (accessed 21.09.11).

FONAFIFO, 2011a. "Distribucion de los Pagos de los Servicios Ambientales por Modalidad". San Jose, CR: Ministry of Environment and Energy, Costa Rica. <http://www.fonafifo.go.cr/text_files/servicios_ambientales/distrib_Pago_SA.pdf>

FONAFIFO, 2011b. "Distribución de las Hectáreas Contratadas en Pago de Servicios Ambiéntales, por Año y por Modalidad, Período 1997-2010". San Jose, CR: Ministry of Environment and Energy, Costa Rica. <http://www.fonafifo.go.cr/text_files/servicios_ambientales/distrib_ha_Contratadas.pdf> (accessed 21.09.11).

FONAFIFO, 2011c. "Asignación Presupuestaria para CAF y PSA por Fuente de Financiamiento Período 1995-2011". San Jose, CR: Ministry of Environment and Energy, Costa Rica. <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Dist_Presu_Montos.pdf> (accessed 21.09.11).

FONAFIFO, 2011d. "Hectáreas PSA, Árboles SAF y Montos Contratados en los Territorios Indígenas de Costa Rica, Período 1997-2010". San Jose, CR: Ministry of Environment and Energy, Costa Rica. <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Ha_ArbYmontos

TerIndigena.pdf> (accessed 21.09.11).

FONAFIFO, 2011e. "Montos asignados al Pago de los Servicios Ambientales por Modalidad, para el año 2011". San Jose, CR: Ministry of Environment and Energy, Costa Rica. <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Montos_Asignados.pdf> (accessed 21.09.11).

FONAFIFO, 2011f. "Datos Históricos de las Presolicitudes Recibidas en el Período 2003-2011". San Jose, CR: Ministry of Environment and Energy, Costa Rica. <http://www.fonafifo.go.cr/text_files/servicios_ambientales/DemandaPSA2011.pdf> (accessed 21.09.11).

FONAFIFO, 2012. "Convenios con FONAFIFO". San Jose, CR: Ministry of Environment and Energy, Costa Rica. <convenios.xlsx>

FONAFIFO, n.d. "Canon de Aprovechamiento de Aguas: Que es? Cual es su objectivo? Como se aplica?". San Jose, CR: Ministry of Environment and Energy, Costa Rica. <Canon_Agua-2.pdf>

MIDEPLAN, 2007. "Indice de Desarollo Social 2007". San Jose, CR: Ministry of National Planning and Economic Policy. <mideplan_2007_sdi.pdf>

MINAE, 2003. "Manual de Procedimientos Para el Pago de Servicios Ambientales". <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Manuales/Manual2003.pdf> (accessed 27.02.2014).

MINAE, 2006. "Canon de Agua". *Decreto Ejecutivo 32868-MINAE*. San Jose, CR: Ministry of Environment and Energy, Costa Rica.

MINAET, 2007b. "Manual de Procedimientos Para el Pago de Servicios Ambientales". <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Manuales/MPPSA_2007.pdf> (accessed 29.04.2013).

MINAET, 2008. *Decreto Ejecutivo, No 34371-MINAE*. <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Decretos/Dec34371.pdf > (accessed: 29.04.2013).

MINAET, 2008b. "Manual de Procedimientos Para el Pago de Servicios Ambientales". <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Manuales/Manual2008.pdf> (accessed 29.04.2013).

MINAET, 2009. *Decreto Ejecutivo, No 35119-MINAET.* <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Decretos/Decreto35119.pdf> (accessed: 29.04.2013).

MINAET, 2009b. "Manual de Procedimientos Para el Pago de Servicios Ambientales". *La Gaceta* (46): 58-71 <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Manuales/Manual2009.pdf> (accessed 19.03.2013).

MINAET, 2010. *Decreto Ejecutivo, No 35762-MINAET.* <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Decretos/Decreto35762.pdf> (accessed: 29.04.2013).

MINAET, 2010b. "Manual de Procedimientos Para el Pago de Servicios Ambientales". <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Manuales/Manual2010.pdf> (accessed 29.04.2013).

MINAET, 2011. *Decreto Ejecutivo, No 36516-MINAET.* <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Decretos/Decreto36516.pdf> (accessed: 29.04.2013).

MINAET, 2011b. "Plan Nacional de Desarrollo Forestal 2011-2020". San Jose, CR: Ministry of Environment and Energy, Costa Rica.

MINAET, 2012. *Decreto Ejecutivo, No 36935-MINAET.* <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Decretos/N%C2%BA%2036935%20Decreto%20PSA%202012.pdf> (accessed: 13.03.2013).

MINAET, 2013. *Decreto Ejecutivo, No 37660-MINAET.* <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Decretos/ALCA74_23_04_2013.pdf> (accessed: 29.04.2013).

WORLD BANK, 1998a. "Biodiversity Resources Development Project – Project Appraisal Document, #17207-CR". Washington DC: The World Bank Group.

WORLD BANK, 1998b. "Biodiversity Resources Development Project – Implementation Completion and Results Report, #36179". Washington DC: The World Bank Group.

WORLD BANK, 2000a. "Ecomarkets – Project Appraisal Document, #20434-CR". Washington DC: The World Bank Group.

WORLD BANK, 2000b. "Ecomarkets – Project Information Document, #PID8876". Washington DC: The World Bank Group.

WORLD BANK, 2001. "Making Sustainable Commitments". *World Bank Environment Strategy 2001*. Washington DC: The World Bank Group.

WORLD BANK, 2006. "Mainstreaming Market-Based Instruments for Environmental Management – Project Appraisal Document, #36084-CR". Washington DC: The World Bank Group.

WORLD BANK, 2007. “Ecomarkets – Implementation Completion and Results Report, #ICR433”. Washington DC: The World Bank Group.

WORLD BANK, 2011a. “Mainstreaming Market-Based Instruments for Environmental Management –Implementation Status and Results Report, #ISR2710”. Washington DC: The World Bank Group.

WORLD BANK, 2011b. “Mainstreaming Market-Based Instruments for Environmental Management –Implementation Status and Results Report, #ISR4984”. Washington DC: The World Bank Group.

WORLD BANK, 2011c. “GNI per capita, Atlas method”. <http://data.worldbank.org/indicator/NY.GNP.PCAP.CD/countries/CR?display=graph> (Accessed: 15.03.2013).

WORLD BANK, 2012a. “Mainstreaming Market-Based Instruments for Environmental Management –Project Restructuring Document, #70624-CR”. Washington DC: The World Bank Group.

WORLD BANK, 2012b. “Mainstreaming Market-Based Instruments for Environmental Management –Implementation Status and Results Report, #ISR6508”. Washington DC: The World Bank Group.

WORLD BANK, 2012c. “Mainstreaming Market-Based Instruments for Environmental Management –Implementation Status and Results Report, #ISR8626”. Washington DC: The World Bank Group.

WORLD BANK, 2012d. “Toward a Green, Clean, and Resilient World for All”. *World Bank Environment Strategy 2012*. Washington DC: The World Bank Group.

APPENDIX I
Description of Institutions Represented in Interview Dataset

FONAFIFO – the *Fondo Nacional de Financiamiento Forestal* is the quasi-autonomous government agency tasked with implementing the PSA. It holds a unique status within the government hierarchy that allows it to manage both public and private program funds, exercising a great deal of autonomy over the latter. Originally established as a simple trust to manage program finances, FONAFIFO was given responsibility for day-to-day operations of the PSA (application management, monitoring, site targeting, buyer agreements, etc) in 2003.

MINAET – the Ministry of Environment, Energy, and Telecommunications is the government agency responsible for FONAFIFO. They issue (more or less) annual decrees and operational guidelines to govern the PSA's activities, in terms of priorities, quotas, and regulations.

World Bank – this is the shorthand conventionally used for the International Bank for Reconstruction and Development, which is one of the five institutions that makes up The World Bank Group. The World Bank is a development organization that provides loans and grants to governments for development projects. Its stated objective is poverty reduction. The Bank's involvement in Costa Rica's PSA takes the form of two projects: "Ecomarkets" and "Mainstreaming Market-Based Instruments for Environmental Management" (aka MMBI or Ecomarkets II). They deal closely with figures at FONAFIFO.

Colegio de Ingenieros Agronomos – the *Colegio* is the professional association responsible for licensing *regentes* and advocating for their interests. All practicing *regentes* must be licensed by the *Colegio* and pay annual dues. The *Colegio* establishes minimum rates that *regentes* should charge to ensure living wages. They also screen PSA management plans for completeness before they are submitted to FONAFIFO.

Instituto Tecnológico de Costa Rica – the more prominent of the two educational institutions that trains *regentes*, often referred to as Tec. Students that complete an education in forestry engineering become certified *regentes*, though they must then be licensed by the *Colegio* before being permitted to practice. Connections between FONAFIFO and Tec are strong, and some instructors routinely function as consultants at the agency.

FUNDECOR – the *Fundación para el Desarrollo de la Cordillera Volcánica Central* is a Costa Rican based international NGO. FUNDECOR was instrumental developing Costa Rica's PSA, and has continued be involved. The organization has played a unique role in assisting FONAFIFO to develop agreements with private buyers of ecosystem services. FUNDECOR pursues projects that simultaneously promote conservation and economic growth.

Conservation International – CI is a prominent international conservation NGO that has embraced the use of PES in its activities. A vice-president at CI, Carlos Manuel Rodriguez, is a former Costa Rican Minister of Environment.

Rodriguez played a key role in the formulation, development, institution, and implementation of Costa Rica's PSA. He remains well connected to FONAFIFO, MINAET, and the World Bank. CI has been involved in development of the PSA's Biodiversity Trust Fund (a effort initiated under the World Bank's MMBI).

ASANA – the *Amigos de la Naturaleza del Pacífico Central y Sur* is a registered Costa Rican NGO that works to ensure conservation of a regional biological corridor. ASANA was one of several NGOs recruited to promote the PSA in its early years. They received support under the World Bank's Ecomarkets project to coordinate local contracting activities, and they employed a *regente* to draw up management plans for private landowners in their area. ASANA has since ended its contracting activities and now only engages with the PSA as a participant.

ASIREA – the *Asociación para el Desarrollo Sostenible de la Región Atlántica* is another Costa Rican NGO that provides *regente* services. They staff three *regentes* and prepare PSA contracts for landowners in their area, placing special emphasis on the "reforestation" (i.e. plantation forestry) and agroforestry modalities. They too received support under the World Bank projects for their contracting activities.

CEDARENA – the *Centro de Derecho Ambiental y de los Recursos Naturales* is an NGO that is involved in several conservation activities, including the PSA. They act as a private contractor with *regentes* on staff. They have also been working with the World Bank, FONAFIFO, and Conservation International in development of the PSA's Biodiversity Trust Fund.

IngeoFor – this is a private environmental engineering company. It provides *regente* services to its client landowners. It has connections to the board of the *Colgeio de Ingenieros Agronomos*.

ATAL (pseudonym)[94] – ATAL is an NGO that promotes conservation and provides *regente* services.

IIED – the International Institute for Environment and Development is a non-profit development organization that has conducted several studies of Costa Rica's PSA, several of which concern the social and distributional impacts of the program.

UNA / CINPE – the National University's *Centro Internacional de Politicas Economicas* is a research institute that has connections to various conservation development programs in Costa Rica.

Hacienda Barú – this a private tourism operation that is connected with a National Wildlife Refuge and ASANA. It is currently involved in the PSA as a participant, but has had connections to ASANA's contracting activities in the past. Representatives at Barú have also been involved, at high levels, in other conservation activities in the country, including the PSA.

94 "ATAL" is a pseudonym to protect the identify and reputation of those associated with it. Specific names and descriptive characteristics have been fictionalized to ensure anonymity.

APPENDIX II
Classification of Institutions by Role
(Interview Dataset)

Role	Description
Contracting Services	PSA contracting services are provided by a number of organizations and private contractors in Costa Rica. *Regentes* are employed to draw up management plans with landowners and prepare their applications for submission to FONAFIFO. I conducted interviews with people that play this role at several institutions, including: ASANA, ASIREA, ATAL, CEDARENA, Talamanca Caribe, and IngeoFor.
Innovation / Experimentation	There is a small "inner-sanctum" of well-positioned, connected, and influential people that are responsible for most of the program innovation and experimentation. These people are the source of the "big ideas" and conceptual elements of the PSA. I interviewed individuals that play this role at several institutions, including: FONAFIFO, the World Bank, Tec, Conservation International, and FUNDECOR.
Implementation	Implementation of the PSA takes place on many levels, including contracting with landowners, contracting with buyers, management of labor, and training. I interviewed individuals involved in these aspects of the PSA at: FUNDECOR, the *Colegio*, Tec, ASANA, ASIREA, ATAL, CEDARENA, Talamanca Caribe, and IngeoFor.
Assessment and Research	Aside from FONAFIFO's and the World Bank's own internal assessments and studies, there are a number of institutions conducting research on the PSA. These include: IIED, UNA / CINPE, and Tec.
Governance	The governance of the PSA program takes place at several levels. Day-to-day operation are managed by FONAFIFO, broad level guidelines and regulations are set by MINAET, and professional *regentes* are represented by the *Colegio*. Representatives and former representatives were interviewed at each level.

APPENDIX III
Participant Consent Form

Dear Participant:

I am a PhD student at the University of Edinburgh carrying out research on ecosystem services in Costa Rica. This research concerns the evolution of Costa Rica's *Pagos por Servicios Ambientales* program and seeks to understand how policy negotiations have shaped it over time.

Your participation in this project is important to its success. I am therefore requesting that you grant permission for me to use information gathered during our interviews and interactions by signing below. You will retain the right to withdraw from this research at any time.

If you wish your identity to remain concealed, please indicate that below. In the event that you do wish to remain anonymous, your name and identifiable characteristics such as employer and position will be concealed.

After the research has been carried out, you will be given the opportunity to review the findings and confirm that you are not being misrepresented. Indicate your desire to review these materials below.

The information gathered in the course of this research will be used in the production of a PhD thesis and may be used in further research publications or presented at professional conferences. All data will be stored securely in accordance with the United Kingdom's Data Protection Act of 1998.

I agree to participate in the research. ☐

My anonymity is not essential. ☐

I do not require review of research findings. ☐

Signed: _____ Date: _____

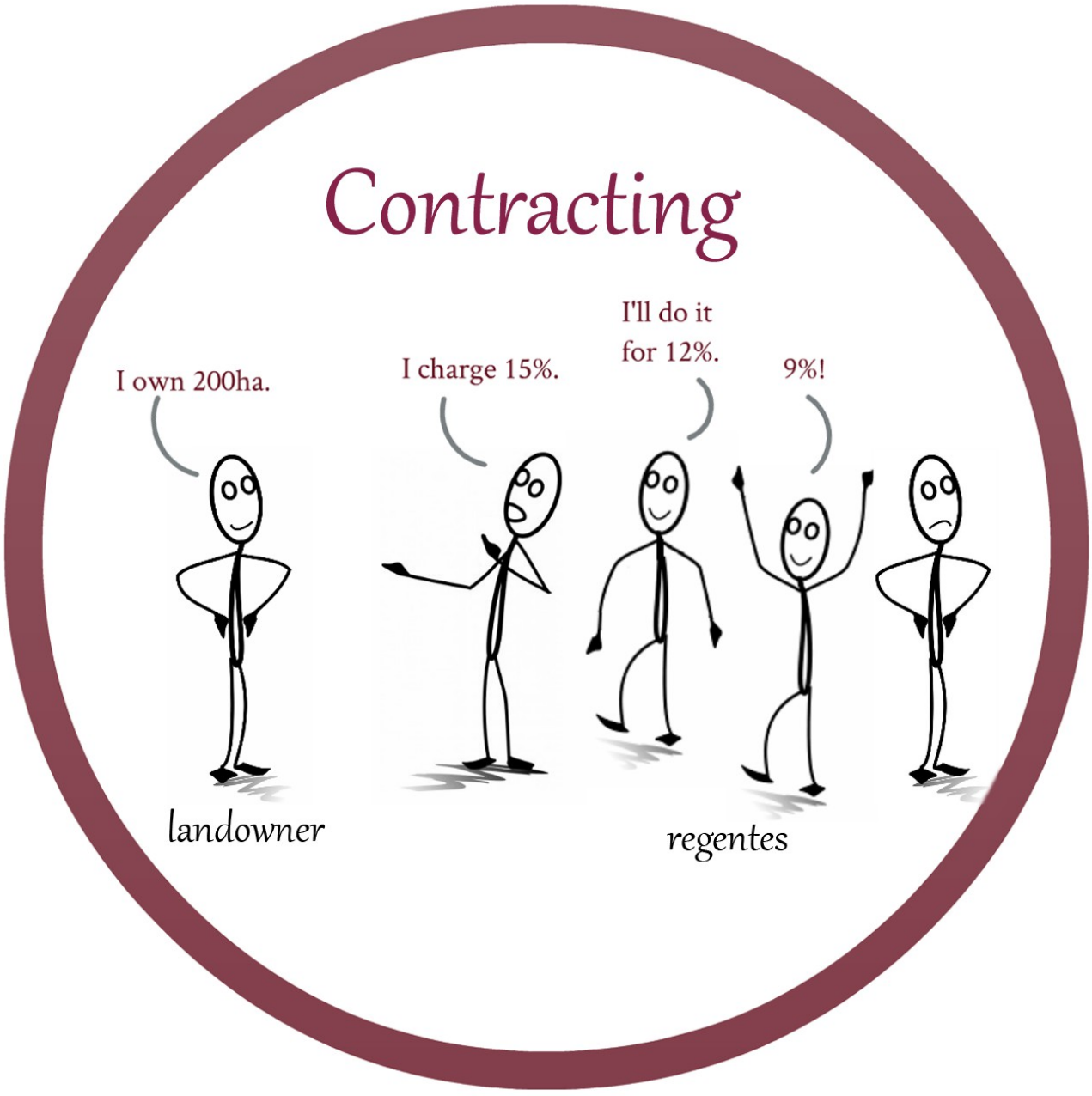
Print Name: _____

Sincerely,

Brett Sylvester Matulis
PhD Student
University of Edinburgh

Address: Institute of Geography, Drummond Street, Edinburgh, EH8 9XP
Email: bmatulis@gmail.com, Phone: +44 771 401 9890, Fax: +44 131 650 2524

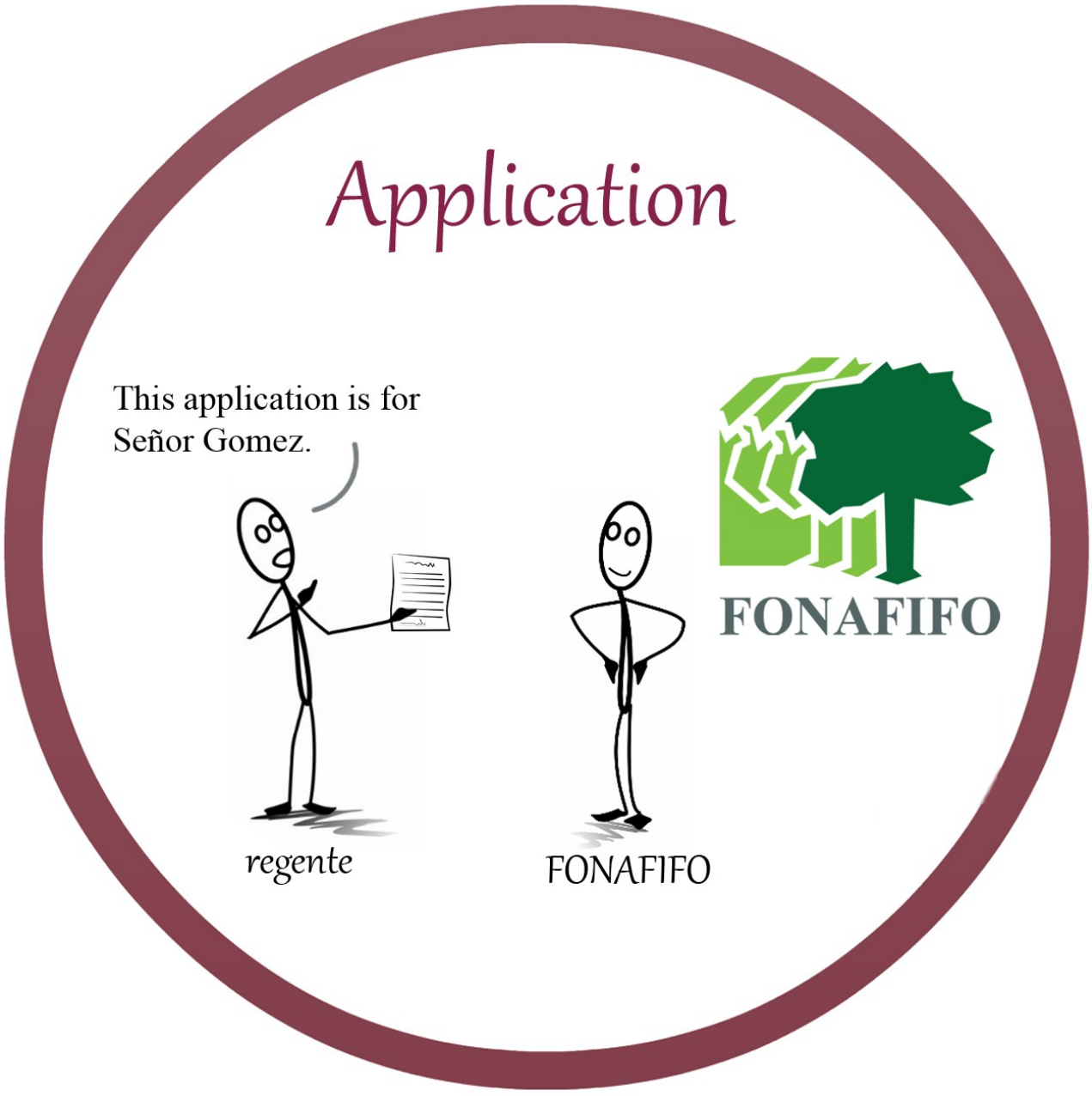
APPENDIX IV
Illustrated Overview of the PSA



1. A landowner that wishes to participate in the PSA must contract an independent *regente* on the open market. *Regentes* compete for contracts and, where possible[95], fees are reduced.

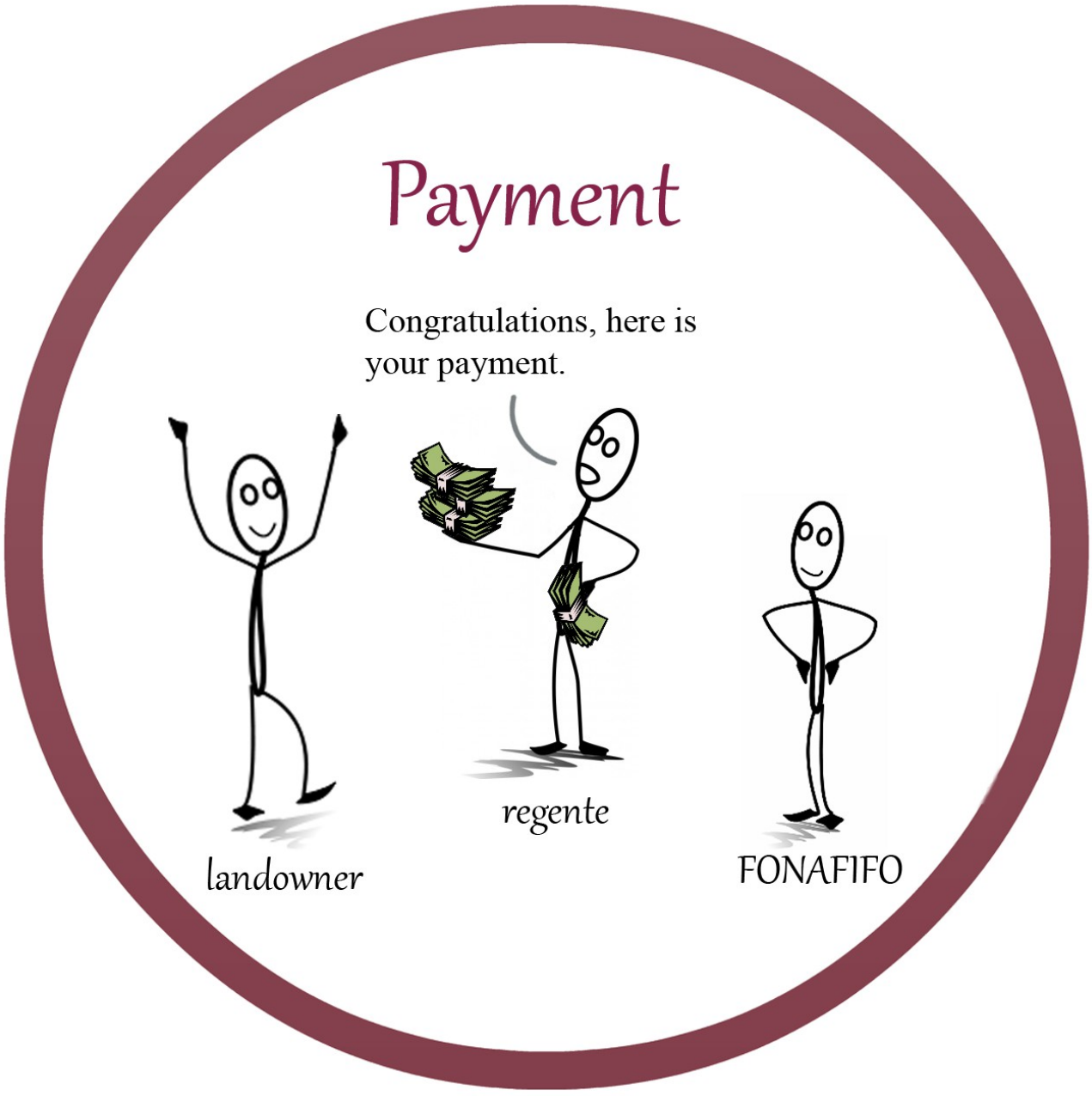
95 As explained in Chapter 6, lower rates from competition are only possible in cases where the land is quite large.

2. The chosen *regente* prepares a land management plan.



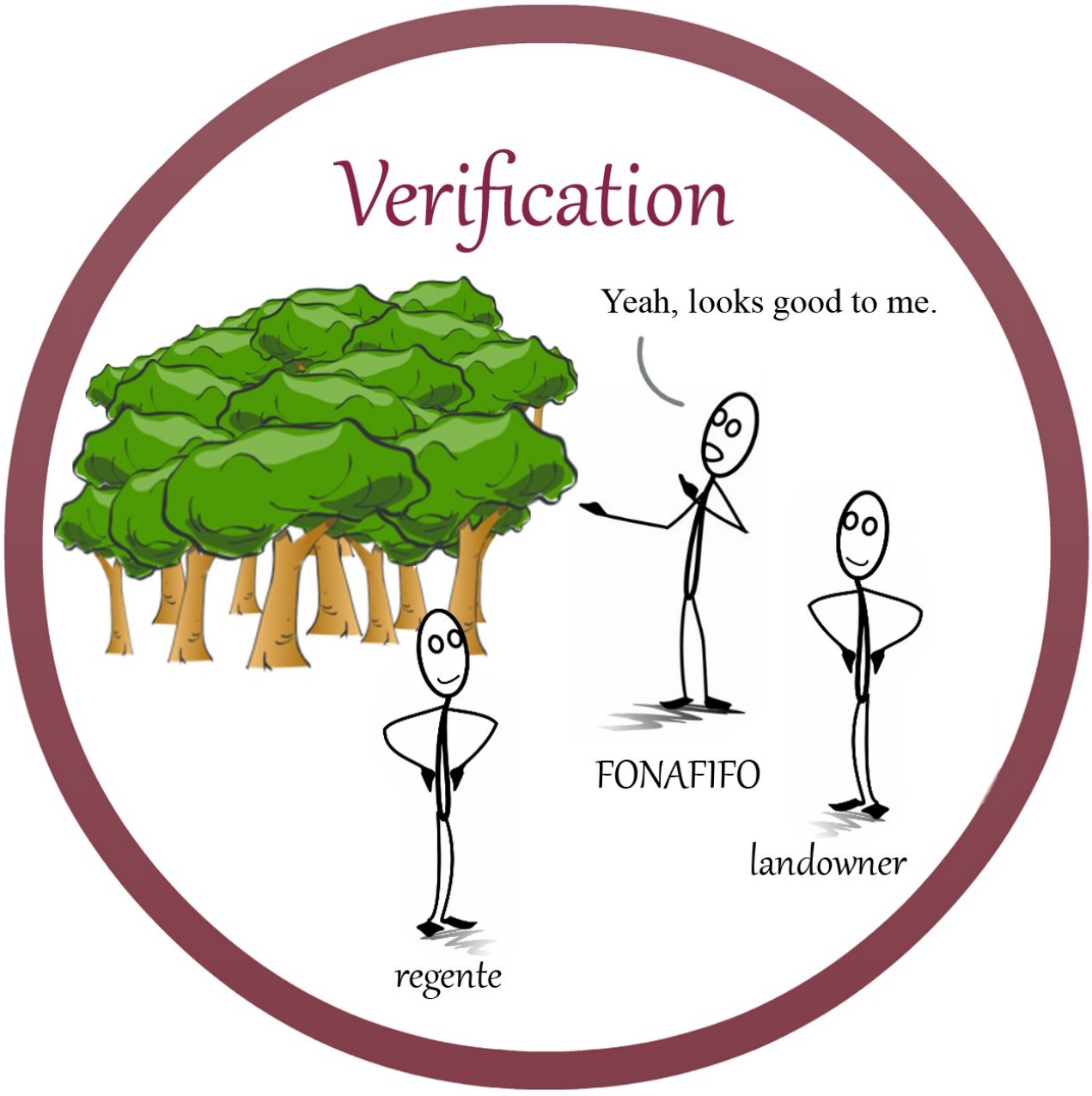
3. An application is submitted to FONAFIFO.

4. If the application is accepted, the landowner must manage his or her land according to the *regente*'s plan, which is inscribed in a contract with FONAFIFO.



5. FONAFIFO makes annual payments to the landowner, and a percentage goes to the *regente* for having written the management plan.

6. The *regente* carries out annual inspections.



7. FONAFIFO does periodic spot-checks to verify *regente* reports.